Backwoods Survival Guide®

PRACTICAL ADVICE FOR THE SIMPLE LIFE

SUBURBAN HOMESTEADING SPECIAL!

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- FOOD PRODUCTION SKILLS
- FRUGAL LIVING STRATEGIES
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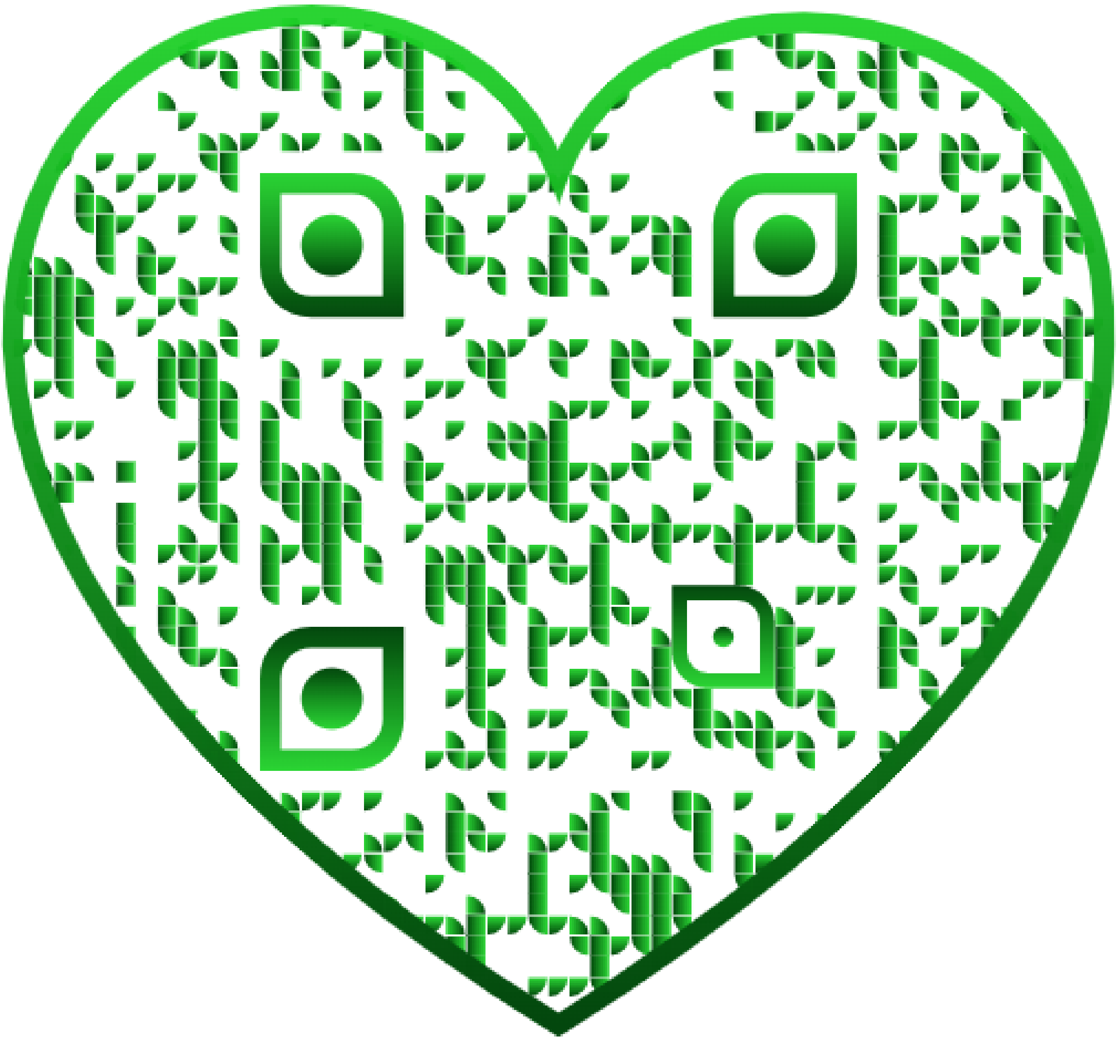

Backwoods Survival Guide®

PRACTICAL ADVICE FOR THE SIMPLE LIFE

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For submission information or other editorial queries, please email Jim Cobb at jim@survivalweekly.com. We're always looking for new products to feature in our magazines.

Letter From the Editor

Welcome to issue No. 33! This is our special Suburban Homesteading issue. Many of our readers don't have endless acres of land available to them. They aren't able to raise cattle, plant massive gardens or pursue any number of other major homesteading projects. But that doesn't mean they have to give up on the dream.

I tasked our contributors to come up with practical advice for everything from growing gardens to living frugally to working in the kitchen, but with a focus on doing it in urban and suburban locations. Not surprisingly, given how talented and experienced our writers are, they responded in spades.

We have great articles on growing and preserving food, saving money, raising animals, making repairs, and so much more. All of it is geared toward those who want to homestead, but thought they didn't have the space to make it happen. As always, everyone here at *Backwoods Survival Guide* is here to help.

JIM COBB

The advice given in this magazine is the opinion of the author of each article based on their personal experiences and knowledge. The right response to a disaster may not be the same in all situations. Articles are for informational purposes only. The publisher accepts no responsibility for injuries or liability arising from relying upon information contained herein. In the event of an emergency, follow the advice of first responders and trained professionals. Have a preparedness plan researched from multiple sources and avoid high-risk situations. Follow all applicable federal, state and local laws for firearm ownership, carry and usage.

CHAPTER 1

FOOD PRODUCTION

THERE'S SOMETHING SOUL-SATISFYING ABOUT GROWING YOUR OWN FRESH EATS!

You may be surprised how much you can produce in small planters like this.

CONTAINER

GARDENING

Yes, you can grow food, no matter where you are

BY DANA BENNER

I HAVE NO IDEA WHERE IT CAME FROM, BUT SOME PEOPLE ACTUALLY BELIEVE THAT YOU CANNOT GROW FOOD UNLESS YOU HAVE MULTIPLE ACRES OF LAND. TO BE HONEST, NOTHING COULD BE FURTHER FROM THE TRUTH. ALL AROUND THIS COUNTRY, IN HUNDREDS OF CITIES AND SMALL TOWNS, PEOPLE HAVE MADE THE DECISION TO TAKE AN ACTIVE ROLE IN THE FOOD THAT THEIR FAMILIES EAT AND THEY ARE DOING IT ONE POT, AND ONE PLANT, AT A TIME. IN THIS ARTICLE, WE WILL GET YOU STARTED ON HOW YOU TOO CAN PROVIDE YOUR FAMILY WITH FRESH VEGETABLES FROM JUST A FEW POTS ON YOUR PORCH. THESE TIPS WILL WORK ANYWHERE, SO LET'S GET GOING.

THINK POSITIVE

How many times have you heard people say, "I don't have a green thumb" or "I can't grow anything and I even kill plastic plants"? Let me start by saying that there is no such thing as having a "green thumb." With a will to get things done and a positive attitude, you can grow plants. I give classes all the time on container gardening, and I surprise many people who think they can't do it. Container gardening is not rocket science. You can and will succeed if you follow these simple instructions.

A CONTAINER, SOME DIRT AND SOME WATER

Container gardening is no different than a traditional garden except being on a much, much smaller scale. All the items needed to grow vegetables are the same. To get started you will need a container, some good soil, good high-quality seeds, water and sunshine. That's it. Sounds simple, right? Like I said before, this is not rocket science.

Now that we know what we will need, let's break down each component.

CONTAINERS

Any container will do. No need to go out and spend a bunch of money on "specialty" containers. I've seen people use traditional window boxes, 5 gallon buckets, beach pails, empty milk jugs and even an old wheelbarrow. Basically anything goes. The only requirement for any container that you use is that it must have proper drainage. Without drainage, water will pool up in the bottom and could drown the roots of the plant.

Providing proper drainage is a matter of drilling two or three 3/8- to 1/2-inch holes into the bottom of the container. After that's done, add about 3/8 to 1/2 inch of small stones or gravel to the bottom, covering the holes. Then cover the stones with a layer of soil. The stones or gravel will help to keep both soil and water from simply running out the bottom. That's all there is to it.

SOIL

There are a lot of soils out there on the market and no two are alike. There is soil with added fertilizer and other chemicals, and soil that is organic. I prefer to use organic soil in my containers. The choice is up to you. Whichever soil you choose. you'll just need to make sure that it is not topsoil or garden soil (the bags are marked). These soils are too "heavy" for this application. You want soil that will allow the roots to spread out. Remember, you're using a container, so you have to give your seeds and

THIS IS A GREAT WAY TO REPURPOSE SOMETHING YOU'D JUST TOSS OUT IN RECYCLING!

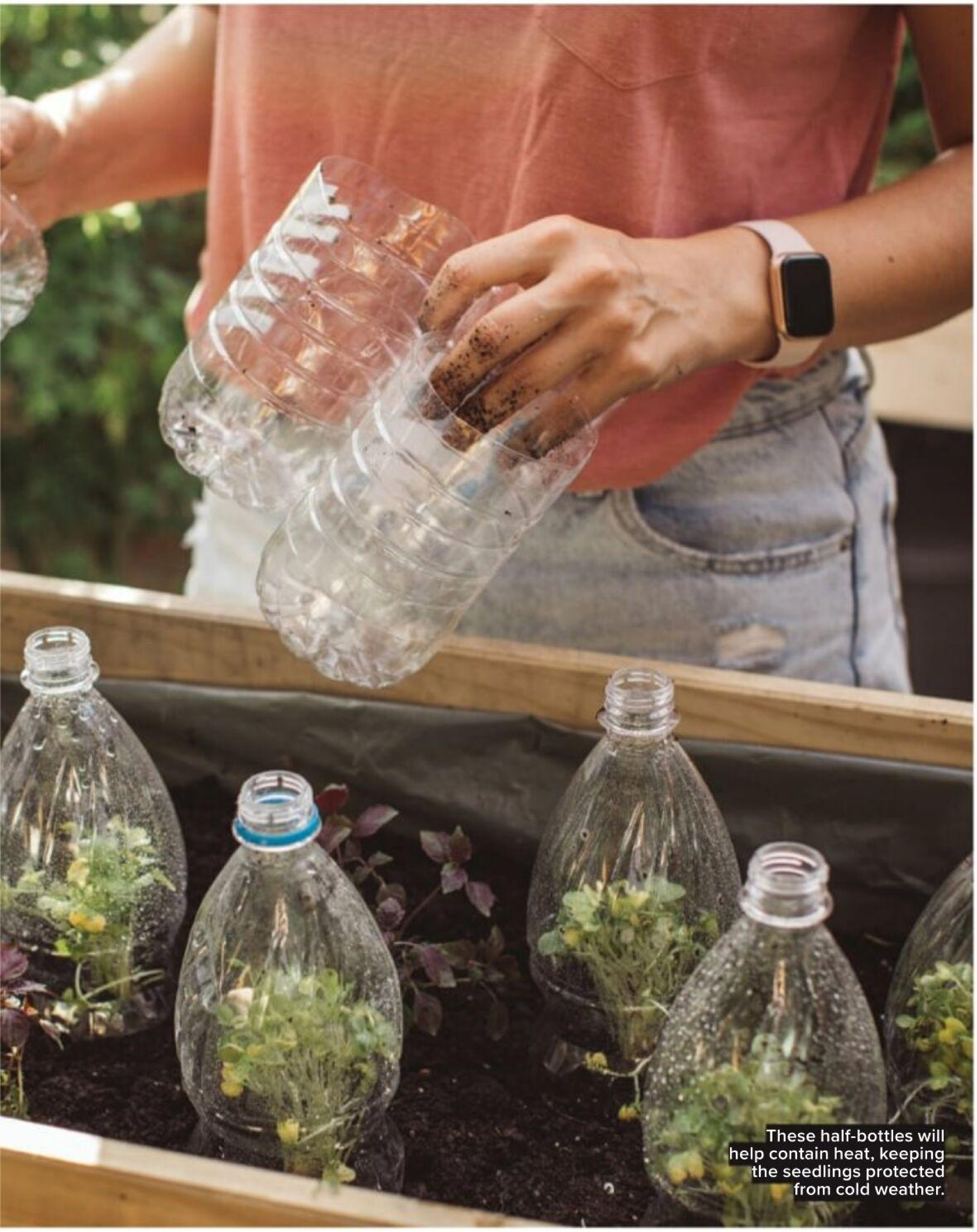
plants as much leeway as possible. Look for soil marked as potting soil or raised bed soil.

SEEDS

The best soil in the world will not help if the seeds you are using is not top quality. When choosing seeds, there are a few things that you need to consider. First, what do you want to grow? Keep in mind that you will be working in a much smaller medium. For that reason, crops such as corn are out of the question, as they need much more room. The good news is that most crops can be grown in containers. Next is to stick to the vegetables that you and your family will eat. Why waste the time and energy if they aren't going to eat it? I'll never grow kale or eggplant, as I can't stand either one of them. Space is limited, so use it wisely and grow only what you will eat.

The next thing you will need to consider is the quality of the seeds you use. Spending a few dollars for good seeds more now will pay off in the long run. If you save the seeds from your crops at the time of harvest, then you could potentially never have to purchase another seed again, unless you want to. Purchase your seeds from reputable dealers. The seeds you purchase from discount stores are questionable. Though a few of the seeds may germinate, the crops they produce can be a bit iffy and the seeds are not worth saving. With that being said, I keep the seeds from everything, even store-bought produce. Why? Because you just never know what will work, even though the odds are against me.

When I do purchase seeds, I usually purchase heirloom varieties and they need to be non-GMO. I want the plant and the fruit from that plant to be as nature intended it to be, not what someone in a lab thinks it should be. Again, the choice is yours.



These half-bottles will help contain heat, keeping the seedlings protected from cold weather.

WATER

Soil in containers will heat up fast, much faster than in a traditional garden. This means you will need to water more often. Despite this, you will use much less water in a container garden than you would be using in a traditional garden, and you have more control over it. To help to reduce the amount of water needed you can always mover the container in and out of the sun as needed. This is especially useful during extreme heat waves.

SUNSHINE

Like all gardens, container gardens need sunshine. Yes, a plant in a container will get sunlight from just being in a window, but they thrive outdoors. There is such a thing of too much of a good thing, so keep your plants watered and don't be afraid to move them during extreme conditions. Avoid placing them near heat vents, though.

CONCLUSION

The argument that says you can't grow vegetables to feed your family if you live in an apartment or a condo is pretty lame. Container gardens give everyone a choice in the variety and quality of the food that they eat. You know where that tomato, cucumber or squash came from because you grew it. Can you say the same for the produce at the grocery store? I don't think so. I am not saying that a container garden will keep you from having to purchase produce ever again. That's just not the truth. But by seeing what you can do will enable you to control what your family eats. Instead of the grocery store, maybe you will purchase your additional produce at a local farm or at the farmers market in your neighborhood.

With just a little effort, everyone can grow at least some amount of their own food. Maybe you can get your neighbors to do it as well and start your own apartment garden where you trade produce with one another. That is how our ancestors did it. Don't give up just because you don't have acres of land.

KEEP YOUR CONTAINERS CLEAN

I never throw anything away if it could possibly have another use, and containers are no different. If you do the same, then that is a good thing. The important thing is to use only clean containers for your plantings.

- Old soil left in containers can harbor bacteria, viruses, fungi and other harmful stuff, so you want to get it all out. Proper cleaning and sanitizing is vital. It's not difficult, if you follows the steps below.
- Empty the containers completely. Remove as much of the old soil that you can.
- Using a stiff brush, remove anything that has stuck to the inside of the container.
- Wash the container with a mild, environmentally friendly dish soap to clean out anything left behind.
- Mix a solution of equal parts vinegar and water in a bucket or tub. Soak the containers in this solution for 30 minutes.
- Remove the containers from the solution, rinse with clean water and allow the containers to dry in the sun. Once dry, the containers can be used or stored away until they're actually needed.

Dana Benner is from New Hampshire and has been writing about all aspects of the outdoors and sustainability for over 35 years with his work appearing in numerous publications. He hosts and produces outdoor and history programing for HCTV in Hudson, New Hampshire.

Not all food needs to be grown outdoors. If you have the space inside, you can actually grow quite a bit.

INDOOR PLANTS IN PARTICULAR CAN DRY OUT QUICKLY, SO MAKE A POINT OF ENSURING THEY'RE PROPERLY HYDRATED ON A REGULAR BASIS.

COMMON GARDENING MISTAKES

And how to avoid them

BY BERNIE CARR

GARDENING IS A FUN AND REWARDING ACTIVITY. WHO CAN RESIST PERUSING SEED CATALOGS IN ANTICIPATION OF PLANTING SEASON, EVEN IN THE MIDDLE OF A LONG WINTER?

Overwatering your plants is just as bad as underwatering them.

Beginners eager to jump in envision connecting with nature, planting seeds and harvesting vegetables. On the other hand, new gardeners may also experience frustration as they face challenges. I have made several gardening mistakes over the years. Let’s look at common beginner mistakes and practical solutions to avoid these pitfalls.

PLANTING CROPS NOBODY EATS

One of the mistakes I made when I first

You can't just plant them and forget them. Your garden needs your attention regularly.

started gardening was planting too many vegetables and herbs that went uneaten. I was excited about buying and sowing seeds that I thought would grow well in my area. One year I planted eggplant and lemongrass. They did grow, but no one in the family ate the harvest. To avoid this mistake, note what you normally buy at the store during your regular grocery runs. Plant only vegetables, fruits and herbs that you will consume and that will thrive in your area.

IGNORING PLANT HARDINESS ZONE MAPS

Every area has its own climate, and not all plants are suitable for a given area. Plant Hardiness Zone Maps, published by the U.S. Department of Agriculture, help gardeners select plants that are most likely to survive in their climate. The map includes 13 different planting zones, ranging from the coldest (Zone 1) to the warmest (Zone 13). Each zone is further divided into 10-degree half-zones, (A and B), with A representing the colder half and B the warmer half. If you read the back of a seed packet, it will likely tell you the hardiness zone the plant will thrive in, and the best time of year to plant. You can find the map online (https://planthardiness.ars.usda.gov/), and identify your particular zone. This information will help you succeed in your gardening efforts.

NOT STARTING SEEDS INDOORS

New gardeners may be eager to plant their seeds outside as soon as the frost clears. Not so fast! Many plants are better suited to getting started indoors, particularly if you live

Gardens require upkeep all year long, including putting it to bed at the end of the season.

in a cooler climate. Growing the seeds indoors allows the plants to be stronger and hardier before planting them outdoors when the weather gets warmer. According to the University of Minnesota Extension, many vegetables and annual flowers must be started indoors in early spring.

NEGLECTING SOIL HEALTH

Healthy soil is essential for plant growth. Most beginners don't pay attention to the condition of the soil. They just want to till whatever soil they have or fill the pots with enough dirt to start planting. Poor soil conditions can lead to nutrient-deficient plants, stunted growth and other issues.

It's a good idea to have your soil tested or conduct a test yourself. You can purchase a test kit or have your soil tested by a nursery, garden center or university extension services. Improve your soil's quality before planting by adding organic matter such as compost or properly aged manure. The test results will guide you.

IF YOU TAKE GOOD CARE OF YOUR GARDEN AND BE PATIENT WITH IT, THE GARDEN WILL TAKE GOOD CARE OF YOU AND YOUR FAMILY OVER TIME.

Few areas have excellent soil just sitting in the ground waiting for you to plant seeds in it.

YOU MAY NEED TO TEST YOUR SOIL TO DETERMINE HOW TO AMEND IT PROPERLY!

PLANTING TOO CLOSE TOGETHER

When you have a small garden, you may be tempted to sow plants closely together to accommodate more of them. Unfortunately, overcrowding can cause problems such as increased competition for nutrients, lack of sunlight and poor air circulation, making plants susceptible to pests and diseases. To avoid these issues, follow spacing guidelines on seed packets or plant labels. Plants need access to air, sunlight and nutrients. Proper plant spacing allows plants to thrive and reduces the risk of diseases and pests.

NOT LABELING PLANTS

One year, I skipped labeling my plants and told myself I would remember what seeds I planted in each location. I regretted that decision after a few weeks when I got confused. Different plants have different needs, and identifying them once they've grown can be tricky. Label each plant as soon as you plant them. I write the plant names on wooden ice-pop sticks using a permanent marker. Or, you can buy garden markers that are durable and won't get erased when it rains. This step will help you keep track of what's growing in your garden, and ensure you can care for the plants accordingly.

FORGETTING ABOUT COMPANION PLANTING

You don't need to grow the same types of plants next to each other. Companion planting, also known as interplanting, means growing certain plants that are beneficial together. For example, when I planted vegetables in planters, I placed marigolds in between them, because marigolds repel pests such as aphids, caterpillars, hornworms, nematodes and whiteflies. Similarly, I planted basil next to my tomatoes, as basil is also known to deter insects such as tomato hornworms, ants, mosquitoes, flies and flea beetles.

Do some research on what plants will work well with your garden. You'll promote healthier plants and potentially use fewer pesticides.

OVERWATERING OR UNDERWATERING

When I started my garden, I thought plants needed constant watering. I found out eventually that overwatering causes a lot of problems for plants, such as root rot, the growth of fungus and dropping leaves. On the other hand, underwatering can cause plants to wilt, become weaker and be susceptible to diseases.

To avoid either one of these problems, monitor your plants' soil moisture levels regularly. To check if it's time to water your plants, place your finger about 2 inches below the top of the soil. If it feels dry, then it's time to water. Water your plants early in the morning, to allow them to absorb moisture throughout the day as the heat intensifies and water evaporates.

FAILING TO MULCH

I did not add mulch when I first started gardening, which made my plants more vulnerable to heat and excessive weeds. The following year, I decided to add wood chips around my plants, which helped them stay healthier.

When you start your garden, add mulch around plants from the get-go to help them retain moisture and keep weeds controlled. Just apply around 2 to 3 inches of organic mulch, such as straw, bark, wood chips or compost. This will help your soil to stay cooler in the summer and warmer in the winter, reduce the need for frequent watering, and keep weeds under control.

MISUNDERSTANDING PEST CONTROL

Garden pests can quickly decimate your garden if left unchecked. On the other hand, not all insects are pests—some insects are actually helpful to a garden. If you overuse pesticides you may end up killing pollinators such as bees.

Check your plants often for signs of pests and act as soon as possible. Don't kill off beneficial insects such as ladybugs, which eat

SHOULD YOU DO CROP ROTATION?

Crop rotation means you don't plant vegetables from the same plant family in the same spot every year. The main reason is to prevent fungal diseases from building up in the soil, as well as to deter pests from gaining a foothold and attacking your plants. Rotating plants also prevents the soil's nutrients from getting depleted. However, there are conflicting views regarding crop rotation. Some gardeners practice it year after year, while others have indicated crop rotation is not necessary and may not be suitable for small gardens.

Since I have had some pest issues in the past, I prefer to practice crop rotation. However, for gardeners who prefer to skip it, here are some other tips to keep your plants healthy:

- **Prune dead plants and clean up debris.** Don't allow fruit to fall to the ground and rot. Clean up any fallen fruit and old vines.

- **Mulch your soil.** Generally, you should apply mulch such as straw, hay, grass clippings, pine bark or wood chips at least once a year. The best time to mulch is in mid-spring when the soil has gotten a bit warmer, before the weeds come in.

- **Replenish your soil.** Improve your soil's health by adding aged compost, organic fertilizer or worm castings. They add nutrients to your soil, build better soil structure and improve drainage.

- **Plant disease-resistant plant varieties.** Choose plants that are native to your area so they are naturally resistant to the area's diseases. Save seeds only from the healthiest plants in your garden.

The choice of whether to rotate crops ultimately depends on your gardening goals, available space and time.

Radish
Carrot

AS MUCH AS POSSIBLE, LET YOUR CHILDREN HELP YOU WITH THE GARDEN CHORES!

Labeling your plants will help you stick to your plan and avoid confusion as to which plant is which.

aphids and other pests, and green lacewings, whose larvae eat caterpillars and aphids. Spiders (which are arachnids, rather than insects) are also helpful to a garden as they also consume pests. If you spot pests starting to infest your plants, use natural remedies such as insecticidal soap or neem oil to deter infestations without harmful chemicals.

INCORRECT FERTILIZER USE

Many new gardeners use the "more is better" approach when it comes to fertilizer. Or they might use fertilizer that is unsuitable for their plants. These mistakes can cause nutrient imbalances and do far more harm than good.

Understand the nutrient needs of your particular plants and choose the proper fertilizer accordingly. Use a balanced fertilizer or one that is specifically made for your plant types. To avoid overfertilizing, always follow the instructions found on the fertilizer package. Consider using organic supplements such as compost, which helps build soil health, rather than chemical additives, when possible.

BEING IMPATIENT

The excitement of starting a garden may lead to impatience, as a new gardener may be anxious to see progress and immediate results. This can lead to overwatering, overfertilizing or giving up on plants that don't immediately thrive. Enjoy each step of the process and celebrate your wins. Watch closely for the new sprouts, the first flowers and developing fruits. Not every plant will be a success, but some are sure to be winners. You will learn from your mistakes. With time and patience, you'll get to see your plants produce a harvest of which you can be justifiably proud.

Bernie Carr is the founder of apartmentprepper.com, a blog about family preparedness in an apartment setting. Her books include *The Prepper's Pocket Guide: 101 Easy Things You Can Do to Ready Your Home for a Disaster*, *Jake and Miller's Big Adventure*, *The Penny-Pinching Prepper* and *How to Prepare for Emergencies on a $50 Budget*. Her latest e-book, *Frugal DIY*, is available on Amazon.

KEEP IT GROWING

Extending the season at each end

BY JIM COBB

ONE OF THE GOALS OF HOMESTEADING AT VIRTUALLY ANY LEVEL IS FOOD PRODUCTION. AND THE MORE FOOD YOU CAN PRODUCE EACH SEASON, THE BETTER, OF COURSE.

IMAGINE HAVING FRESH GREENS AT YOUR FINGERTIPS ANY TIME YOU WANT THEM!

While not everyone has space for a large structure like this, there are smaller options available.

One of the primary limiting factors when it comes to garden production is the length of the growing season. Many of us live in areas where that season might only be a few months long. When you're dealing with limited garden space, it becomes even more important that you get as much use out of it as you can.

There are a number of ways you can sort of cheat the system and extend the growing season.

START INDOORS

There are several websites that you can use to determine the average last frost date for your area, typically by ZIP code. What this gives you is the last date you can reasonably expect to have a hard frost. This information is important because you don't want your plants to get killed off by frost.

Once you know the last frost date, start your seeds about six to eight weeks before it. That should give your plants enough time to grow into stable seedlings that you can transplant outdoors when the weather is warm enough to do so.

A dedicated spot in the home where there is sufficient light and warmth is ideal for seed starting. One of the best approaches is to set up shelving with grow lights, then place trays of planted seeds under each light. Something we routinely do when we're starting seeds is that once they've sprouted, we very lightly run our hands over the tops of the plants about once a day. The idea is to mimic the movement the plants would experience from breezes outside, which hopefully serves to strengthen the stalks a bit. You could also set up a fan on a very low

STAGGER YOUR PLANTINGS TO VARY THE HARVEST TIMES THROUGHOUT THE SEASON!

Starting seeds indoors can give you a jump start on the growing season.

setting to accomplish the same thing.

Tomatoes, cucumbers and peppers are all great candidates for starting indoors.

STAGGER PLANTINGS

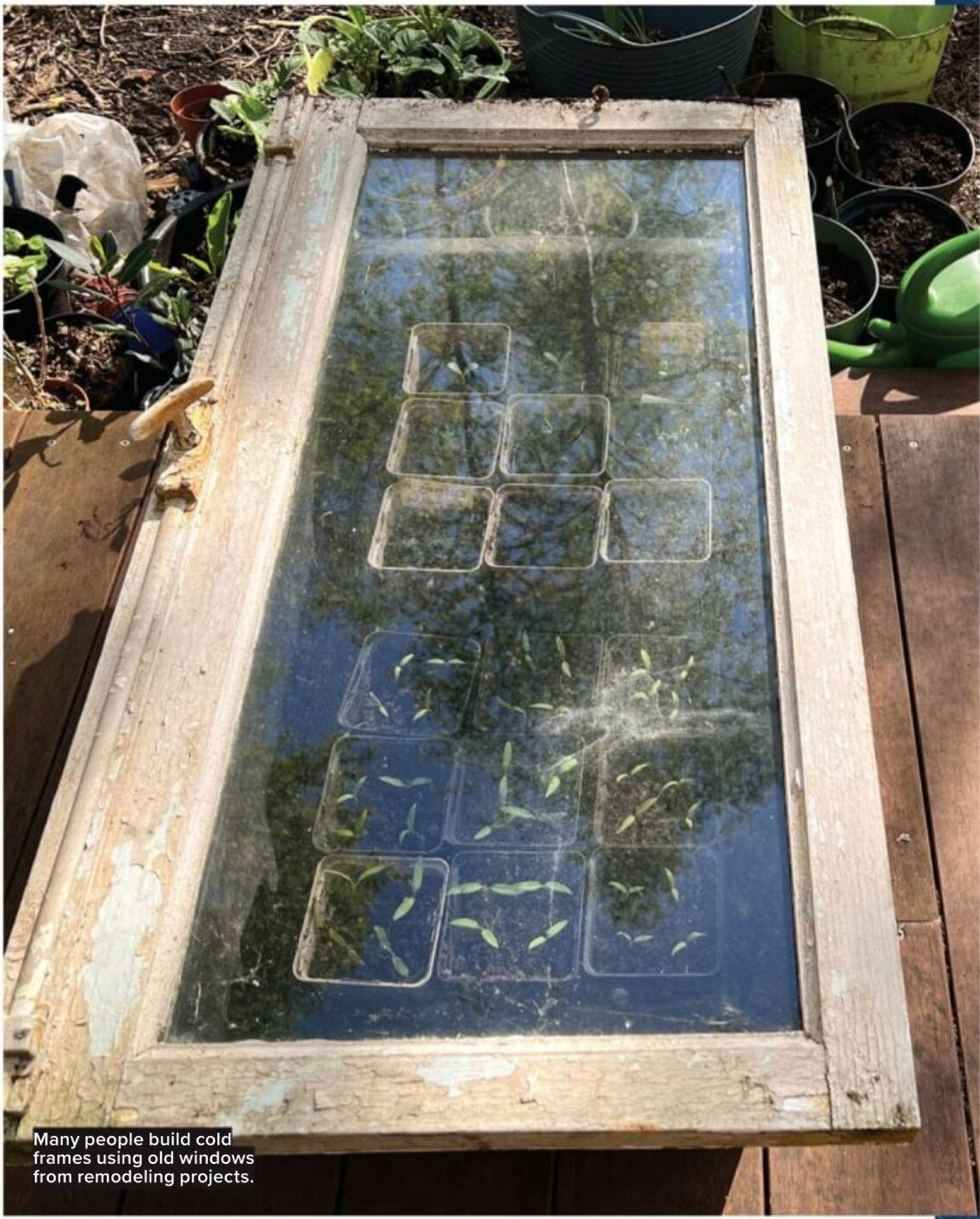
If you space out your plantings, rather than putting everything in the ground at the same time, they'll mature at different times. This means you won't have everything ready to harvest at once. Instead, you'll stagger it a bit.

This method works particularly well for crops like lettuce, where you'll be eating it fresh rather than preserving it for later. Staggering the plantings means you'll have access to those fresh veggies throughout the season, instead of all at once at the end.

CLOCHES

A cloche is a way to protect a plant from cold temperatures and frost. A side benefit is they prevent critters from harvesting the plant until you're ready to do so yourself.

Cloches act like miniature greenhouses for your plants. The easiest way I've found to DIY a cloche is to take an empty 2-liter soda bottle and cut off the bottom. Then, you simply place the bottle over the plant, pushing the plastic sides into the soil. Obviously, this only works with plants of a certain size. During the day, remove the screw cap to allow heat and moisture to escape, then close it up at night.



Many people build cold frames using old windows from remodeling projects.

COLD FRAME

A cold frame is a bottomless box with a transparent cover or lid. Plants are placed inside, either in pots or planted in the ground. The lid allows sunlight to enter and warm the interior all day long. At night, the heat that's been absorbed by the ground is radiated back out, keeping the plants protected from cold weather.

There are a few different ways to go about constructing a cold frame. One of the most common is to just build a simple box and use a recycled window for the top. It should be built such that the window rests at an angle, to allow for maximum sun exposure as well as allow rain or snow to run off. The size of the box is determined by the size of the window. You'll want to paint or stain the box to protect the wood from rotting away from exposure to the elements. Consider painting the interior black, so as to absorb as much heat from the sun as possible.

SCALE THE SIZE OF THE HOOP HOUSE, GREENHOUSE OR OTHER STRUCTURE UP OR DOWN IN ORDER TO SUIT THE SPACE YOU HAVE AVAILABLE.

Another approach is to use bales of straw or hay for the sides of the box and just place windows over them. You could also use cinder blocks, bricks or other materials. The point here is to simply create a box structure covered by a transparent material. If you don't have any old windows handy, you could use sheets of plexiglass or virtually any other clear, sturdy material.

You will want it constructed in such a way that you can easily open it to access the plants inside. The lid should be able to be propped open or removed in case it gets too warm inside the box on a sunny day. You don't want to bake the plants. Just cover it again before nightfall.

You could construct a hoop house over your garden beds to warm the soil and get your plants going, then take it down later in the season.

HOOP HOUSE

This is a DIY solution that we've been using off and on for years. We start by pounding lengths of rebar into the ground on opposite sides of the garden bed. They should line up across the bed. Along each side, they'll be placed about 3 feet apart. We leave about 8 to 12 inches of rebar exposed aboveground.

Then, we take PVC tubes and slip one end over one piece of rebar. The PVC is then bent in an arc to put the other end over the matching piece of rebar. We run one additional length of PVC along the top of the arcs and attach it with zip ties or something similar. This helps to stabilize the structure. From there, we drape plastic sheeting over the whole thing and use clamps to keep it in place on the PVC. We leave enough plastic sheeting at each end to bunch it up and enclose the hoop house.

There are a number of plans online for similar DIY hoop house projects.

We put up the hoop house fairly early, even before the anticipated last frost. It doesn't take long for it to warm the soil in the garden bed, allowing us to get seedlings in the ground sooner than we might otherwise.

GREENHOUSE

As far as plant protection goes, this is kind of the gold standard. It's typically a stand-alone structure with transparent or semitransparent sides and roof. While we might first imagine a large building covered in glass, that is probably out of the question, budget-wise. But there are a number of smaller greenhouse kits available on the market today.

The upside to these kits is that they are affordable. They also come in a range of sizes, so even if you don't have much space available, you can probably find one that will work.

However, in my experience, most of these kits don't last more than a season or two. They are very prone to damage from wind. Because there just isn't much to them, just lightweight metal tubing and a plastic cover, it doesn't take much wind to move them around if they aren't secured to the ground.

You'll also want to seal the bottom in some way to prevent small animals from getting inside. We use lengths of two-by-fours and bricks. It isn't perfect, but it does the job.

Anything you can do to protect your plants from the cold weather in early spring and early fall will help you extend the growing season.

Newspaper pots are a cheap way to make containers for your seedlings.

NEWSPAPER POTS

One way to limit garden expenses is to make your own seedling pots with newspaper. Go online and search "newspaper pot maker" and you'll find a number of products that will do the job. They basically consist of two parts. One part is shaped like a cylinder with a handle of some sort on top. You wrap a strip of newspaper around that cylinder, with some newspaper hanging off the bottom of it. This excess is folded together and then you press it into the second part of the pot maker, which is shaped like a disk. This crimps the newspaper closed. Slide it off and you have a nice little pot that's the perfect size for seedlings.

This is a fun project for kids during a boring winter afternoon. They can crank out a ton of pots in a short period of time.

When it comes time to transplant the seedlings outside, the pots can be dropped right in the ground, as they'll decompose.

Always take time to show the little ones what you're harvesting and teach them how to identify it properly.

BEYOND THE GARDEN

Think outside the box

BY DANA BENNER

SO, YOU WANT TO LIVE A MORE SUSTAINABLE LIFE, BUT YOU THINK THAT YOU CAN'T BECAUSE YOU ONLY HAVE AN ACRE OR LESS OF LAND? SURE, YOU CAN HAVE A SMALL GARDEN WHERE YOU GROW BEANS, PEAS AND SQUASH.

Nuts and fruits from trees can be harvested right from the ground in many cases.

Many Native American tribes made use of acorns, and so can you.

But you want to do more to help feed your family, help the environment and save money. I have been in that situation and I realize that it can be frustrating. The good news is that there is a solution to every problem. It will take some planning and hard work to get there, but believe me, it can be done.

It is time to think outside the box and look beyond the garden. Take a look at trees and bushes, but not just any trees and bushes though. Look at those trees and bushes that produce fruit and nuts. This article will cover what I did, and the mistakes I made along the way. Some of what is here may apply to you and your area; and some of it may not. Everything has its place and I hope this will get you thinking.

NOT ENOUGH SPACE

When most people think about fruit- and nut-producing trees and bushes, they automatically think of acres and acres of neat little rows. Picture your nearby apple orchard or blueberry farm. True, this may be the norm if you are an industrial fruit or nut producer, but it doesn't have to be this way. With just a little planning, you can have fruit and nut trees on just your small lot.

How many people have ornamental trees

and shrubs on their property? My guess is just about everyone. Now what if you replaced just one of those trees or shrubs with a fruit- or nut-bearing tree or bush? That is just what I did on my first property. I had a 90-by-100-foot lot with a small vegetable garden in the backyard. I wanted something more, so I started researching to find out what fruit-bearing trees would work best in my area. I asked my neighbors and the state arborist, and read a ton of books. Being in New Hampshire, I realized that citrus trees were out of the question, but I did know that other trees produce fruit.

My first tree was a crab apple. The fruit of this tree was very popular with the wildlife and with my family after I figured out how to use the bitter fruit in preserves. Crab apples make great jams and jellies, so don't count them out.

Sadly, the crab apple had to go as its roots worked their way into our sewage line. That's why proper planning is a must before you plant anything. That was an expensive lesson to learn.

My next tree was an apple tree, which I planted well away from anything important. The tree produced plenty of fruit for applesauce and pies. It also attracted deer and other critters, but that was fine to me as watching the wildlife brought my family joy. That apple tree fell victim to a severe ice storm and had to be removed. To replace it, I added a cherry tree and then a peach tree.

Always be careful when you're using a ladder, and make sure someone else is around in case you fall.

YOU CAN PICK YOUR OWN APPLES TO MAKE INTO PIES OR APPLESAUCE FOR YOUR FAMILY!

WHAT'S ALREADY IN PLACE

On the backside of my lot, I noticed a bunch of wild blackberry and raspberry bushes. More than just a thorny mess, I saw potential as those bushes were producing a ton of fruit. I gradually cut those bushes back, removed the old canes and what I found was this pruning and hacking stimulated new growth. With new growth came more berries. Early June found me harvesting both blackberries and raspberries, which I promptly froze for later use. All I have to do is cut it back every couple of years.

Just past my property line was a wet area that was full of highbush blueberry bushes. As I was on a roll, I decided to plant some blueberry bushes as well. Soon every available space had something growing on it. These trees and bushes, besides adding to our food larder, attracted all sorts of wildlife, including pollinators, which in turn benefited my garden. It was a win-

Research food-producing trees and shrubs to make sure they'll do well in your area before buying them.

win situation all the way around.

Earlier I mentioned nut-producing trees. The more I looked into them, the less I wanted to invest the time and money. Commercial nut trees need a great deal of water and upkeep, so I took a look once again at what I had. Here in New Hampshire, there is no shortage of oak trees. Oak trees have acorns and my Abenaki ancestors used acorns for a variety of purposes. The wild-growing oak trees became my source of solid mast (nuts) at no cost to me.

IMPORTANT LESSONS

The most important lesson learned here is that it can be done. It just takes some work, planning and a ton of patience. There is no easy fix to anything. Trees and bushes may take a year or two to establish themselves and to bear fruit, so patience is a must.

The next lesson is that not every tree or bush will take, and some will do better than others. When I was planting my blueberry bushes, my daughter went out and got me a couple of elderberry bushes. I found the perfect spot for the new arrivals and put them in. While the blueberry bushes did take hold, such was not the case for the elderberries. It could have been the soil composition. It also could have been the amount of sun or water. I just don't know. What I do know is that everything will not work no matter what you do, and that's OK.

Last, make sure where you are planting is away from impacting any water, sewer or electrical lines. The important thing here is not to give up. Keep trying until you find what works best for you.

KNOW YOUR AREA

Certain species of trees will do better in different parts of the country. Apple, pear, cherry and some peach trees will do well in the northern half of the country. Citrus trees like orange, grapefruit, lime and lemon do best where there is little to no chance of freezing temperatures. Certain citrus trees, like some versions of lime and lemon, can be grown in containers and though I have never tried it myself, I have seen it done. If you can make it work this may be a great option for you. Give it a shot. What do you have to lose?

OTHER BENEFITS

There are other benefits to having trees around that go beyond food. Trees offer shade and it has been proved that trees help to keep the area they are in cooler by a few degrees. That is one reason why many cities are planting them. With the growing cost of power, having a few trees around will keep your home cooler and make your air conditioner work less. This will save you money in the long run—and that is always a good thing.

Cleaner air is another benefit. While all plants take in CO2 (carbon dioxide) and release oxygen, trees take in more of it than any other. They also store that CO2 deep into the ground. So, trees filter the air, give us oxygen and store away harmful carbon dioxide, and they do it all while giving us food at the same time. I'd say that is a win.

Are fruit- and nut-bearing trees and bushes right for you? Only you can answer that question. I do know that they are a viable option for those on a small lot. There is no need to have a ton of property or plant an entire orchard to take advantage of what they can offer. Just one tree will give you and your family fresh food and in the long run save you money. One less package of berries, bag of apples or container of cherries you have to purchase is more money in your pocket for those things you can't produce on your own. Think about it.

DO YOUR RESEARCH

It is very easy to head to the local big-box store and purchase fruit trees, but before you do you need to ask yourself: Are those trees right for you? Will they survive the winter, drought or any other issue you may face? That is where research comes in. What follows is a list of places to look.

- **Local nurseries** Local nurseries are not going to sell you a plant that is not designed to live in your environment. They are also a great source of information.
- **State arborists** Every state has an arborist who can help you.
- **Local commercial growers** These people make a living at growing fruit and nuts, so they know what works.
- **County Extension Offices** Every county in the United States has a County Extension Office. This is a collaboration with a state university and, among other things, they manage the Master Gardener program. They typically offer a wide range of programs of interest to the homesteader.
- **Books** There are many books out there on the subject. Go to your local library and start digging.

CHAPTER 2

RAISING CRITTERS

IN ADDITION TO BEING A HOMESTEAD FOOD SOURCE, THEY'RE FUN TO WATCH!

BE A BIRD BRAIN

Raising chickens in your backyard

BY K.H. KOEHLER

Do your homework as to which breeds will best suit your needs.

RAISING A FLOCK OF CHICKENS IS A REWARDING AND SUSTAINABLE WAY TO PRODUCE FRESH EGGS AND MEAT. THERE ARE A NUMBER OF ADDITIONAL BENEFITS TO RAISING A BACKYARD FLOCK.

Take a look at some of the bonuses:

- A continuous supply of fresh, organic eggs.
- Homegrown eggs are often tastier and more nutritious than store-bought eggs.
- No hormones and antibiotics used.
- Chickens can be fed scraps and kitchen waste, and their manure composted to fertilize your garden.
- It's a great educational experience for children.
- Pest control.
- You'll feel a sense of accomplishment and self-sufficiency.

But don't let an urban environment or a lack of space hold you back. Although letting chickens free-range over

Chickens make good pets for suburban families, but naming dinner might be problematic.

acreage in a country setting may seem beneficial and even picturesque, it's not necessary for the clever homesteader living in a suburban environment, or even the inner city.

Many breeds thrive in small spaces, including Rhode Island Reds, Cornish, Plymouth and Barred Rocks, Orpingtons, Australorps, Silkies, Easter eggers, and the various bantam breeds. Read on for ways to start your flock and make your limited space work for you.

CHOOSE THE RIGHT BREED

Not all breeds are equal in terms of a homesteader's needs. Consider factors such as egg production, temperament, hardiness, and if your birds will be dual purpose for meat and eggs.

Explore what breeds can be purchased locally. Often, these birds will be well adapted to your particular climate and environment, taking the mystery out of which breed is best.

BUY OR BUILD A COOP

Your coop should be well ventilated, predator-proof and have an attached, fenced-in pen or small run to prevent your flock from wandering or becoming a nuisance to nearby neighbors. Research coop materials, and consider the size of your flock and your climate when choosing a structure.

If you're building your own coop, make sure to use high-quality materials and follow proper building instructions. Many coop designs can be downloaded free online. If you're buying a coop, choose one that is made from durable materials and is the appropriate size for your flock.

FOOD AND WATER

Chickens are omnivores and need a balanced diet of protein, carbohydrates and vitamins. Offer a variety of feeds over the lifetime of the bird, including chick starter for young chickens and commercially produced layer feed for egg-laying hens. There is even starter, grower and finisher feeds available for meat birds. Join an online group or speak to an associate at your local farm store for more information on the proper feed for your particular type of chicken.

Consider adding supplements to your flock's diet—such as oyster shells to provide additional calcium for egg production—and always be sure to keep a bowl or bucket handy for organic kitchen scraps, which can be used as a treat and to buff up the diversity of your chickens' diet.

Provide fresh, clean water at all times. Summer in the city can be brutal. During the hotter months, provide an ice float to cool down your flock.

COLLECT AND STORE EGGS

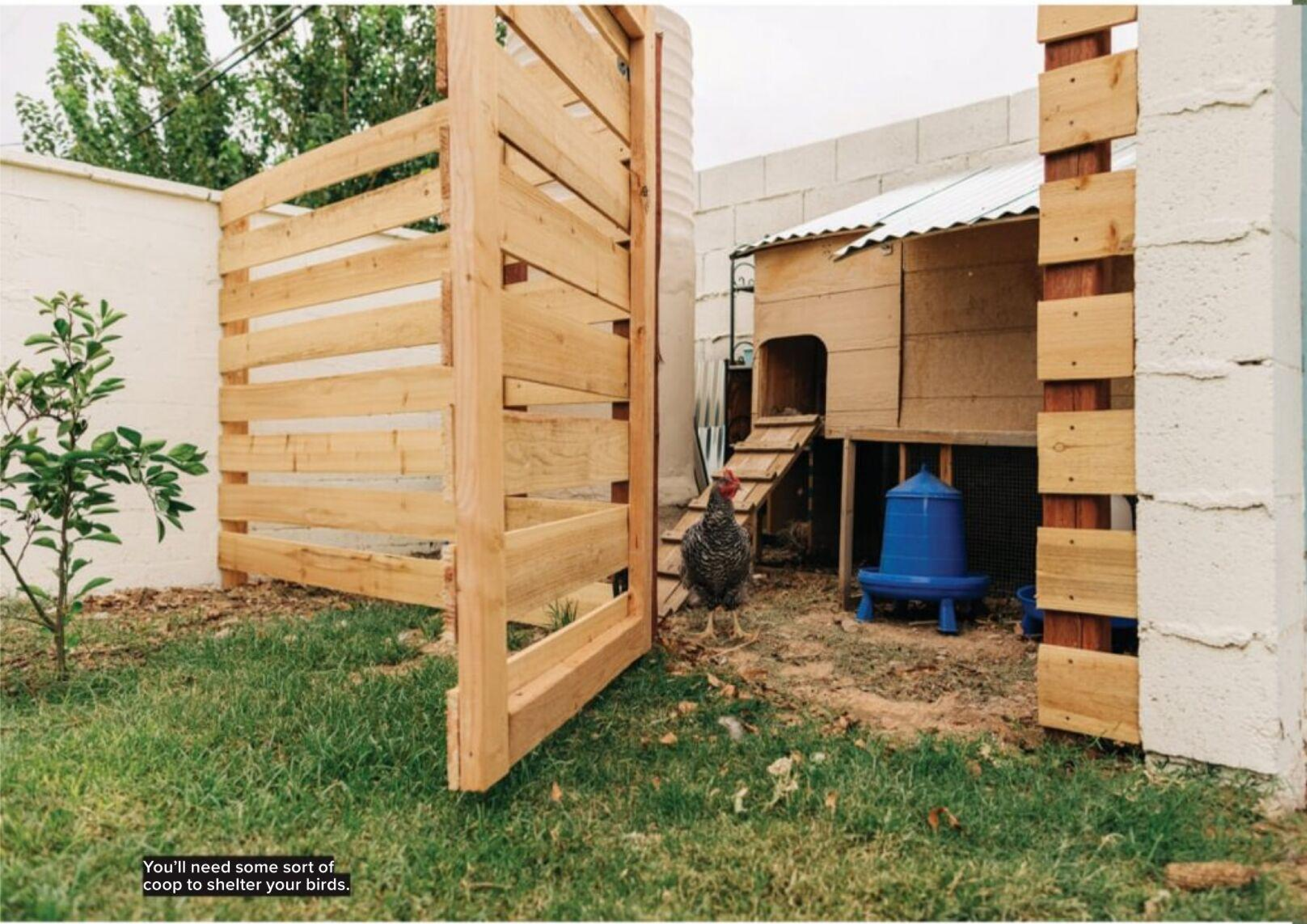
Gather eggs daily to prevent them from becoming dirty or broken. Immediately throw away any eggs with cracked or punctured shells. You can store eggs in a cool, humid place, such as a refrigerator, for up to three months. Unwashed, farm-fresh eggs with their bloom still on will last up to two weeks unrefrigerated on your kitchen counter.

CHICKENS WILL PROVIDE YOU WITH EGGS YOU CAN EAT OR TRADE. THEY CAN ALSO HELP REDUCE PESTS IN THE YARD IF YOU LET THEM ROAM A BIT.

Depending on your flock size, you may wind up with more eggs than you anticipated or can efficiently consume. Consider purchasing a small or used refrigerator to store eggs you will not be using immediately.

MAINTAIN THE COOP AND RUN

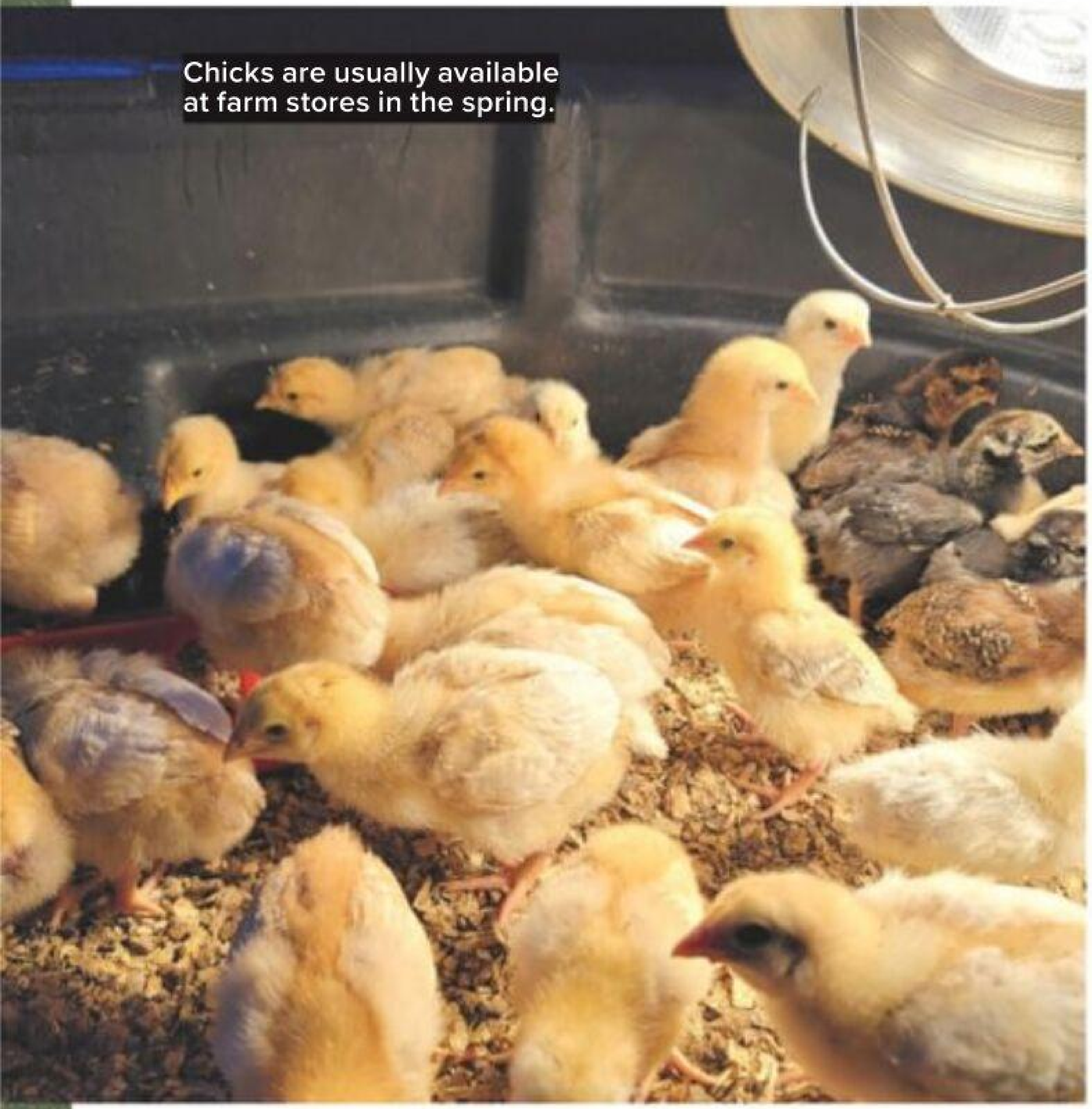
Keep the coop clean and dry to prevent disease. Never construct your coop in an area known to flood. Remove manure regularly and replace bedding materials



You'll need some sort of coop to shelter your birds.

as needed. You will also need to provide adequate ventilation to prevent the buildup of ammonia and other harmful gases.

Inspect the coop regularly for signs of damage or wear and tear, and also check your surrounding chicken pen for signs of predation, which can come in many forms even in the big city, such as neighbors' dogs, raccoons and skunks.



Chicks are usually available at farm stores in the spring.

MONITOR FOR HEALTH PROBLEMS

Regularly inspect your chickens for signs of illness or injury. Common health problems in chickens include mites, lice, respiratory infections, digestive issues and common injuries.

Isolate chickens that appear ill to prevent spreading the disease to the rest of the flock.

Injured chickens should be removed immediately to prevent their flock mates from harassing them. Consult a veterinarian if you have any concerns about the health of your chickens, the possibility of a disease outbreak or an injury that you cannot treat effectively at home.

EQUIPMENT YOU WILL NEED

While you'll earn back far more than what you'll spend when you consider the prices of eggs and meat, it is important to understand that there is a small investment in gear and equipment. This list includes:

- Coop and pen or run
- Food and water containers
- Nesting boxes
- Bedding
- Brooder box and heat lamp (for chicks)
- Fencing
- Egg cartons and egg wash (water spiked with vinegar can be used)
- Chicken feed
- Supplements (such as oyster shells)
- First-aid kit
- Nontoxic chicken coop cleaner
- Egg basket
- Chicken treats

Chickens are a valuable asset to any homestead. They provide a steady supply of fresh protein, and they can also help to control pests and fertilize the soil. They provide a great learning experience, too. If you are looking for a way to add some fresh, healthy food to your diet, raising chickens is a great option—don't let your small yard space hold you back.

K.H. Koehler is primarily a fiction author but has been a homesteading enthusiast since her teenage years. She is a professional copy editor and graphic designer, and all of her various books are available at amazon.com. Visit her site at khkoehler.net.

A LIVING LEGACY

The history of raising chickens is a fascinating journey that dates back thousands of years. It is believed that chickens were first domesticated in Southeast Asia around 6000 B.C. by the Austronesian people. These early chickens were likely junglefowl, a wild species that is still found in the region today. From Southeast Asia, traders and explorers spread chickens to other parts of the world. By the 16th century, chickens were a common sight in farmyards and gardens all over the world. During the Great Depression, many people survived their hardships by raising large flocks of chickens in their backyards.

Don't wash your eggs until you're ready to use them. They'll last longer with the bloom intact.

YES, THEY ARE ADORABLE, BUT THEY ARE ALSO A SOURCE OF HOMESTEAD MEAT!

They're quiet and they don't stink up the place if you take care of them properly.

WHAT'S UP, DOC?

Hares for the homestead

BY CHRISTOPHER NYERGES

FOR THE BEGINNING HOMESTEADER WITH NOT A LOT OF LAND, RABBITS CAN BE THE IDEAL ANIMAL FOR MEAT. THEY ARE NOT NOISY LIKE CHICKENS, AND THEY ARE SMALL ENOUGH THAT YOU DON'T REALLY NEED A VERY LARGE COOP FOR THEM.

And if you do everything just right, there is hardly any smell. Your nearby neighbors will never know you are an animal raiser.

When my wife and I moved into our city lot in the hilly rural-ish neighborhood of Northeast Los Angeles, we wanted to create as much of our food as possible, even though we lived on a fairly standard city lot. We began by planting fruit trees wherever we could and every empty spot was used to grow vegetables and herbs. We managed to get chickens (though we had to get rid of the noisy roosters), bees (kept well hidden in the back), a pig (which is very quiet) and rabbits.

RABBITS

I can tell you that raising rabbits is easy—but in the very beginning, we had lots of questions. We checked out the many books and articles that talk about how to raise rabbits. By far the best education came by visiting a few friends in the hills who raised rabbits. There's really nothing quite like seeing the setup with your own eyes, and being able to ask questions of the people who've been raising rabbits for years.

There are many breeds of rabbits to choose from, and each has their pros and cons. However, when you get started, you're simply going to decide why you want rabbits. The main reason is usually for the meat, which means any breed will do. Secondarily, you may want the hair to create yarn, in which case you'll want a breed such as the Angora rabbit. Also, as a result of butchering the rabbits for food, you will end up with hides that you can tan, and then make into bags or hats, or just sell them. Rabbits also produce a quality manure for the garden, and since all rabbits produce manure, the selection of the breed is not relevant from a manure standpoint.

We visited a few backyard operations to see how our friends kept their rabbits, and to see the issues they encountered. Most breeders we knew kept their rabbits in hutches, which are cages that are elevated above the ground. Some kept that in enclosed areas on the ground. When I got rabbits, we opted for a hutch because it was easier to clean, and we always had a better idea of where the rabbits were.

TAKING CARE OF RABBITS

A rabbit hutch can be built easily by a person handy with carpentry. Ours was wooden on two sides, with a wooden roof. The bottom and two sides were screen. We had inner boxes as well, with roofs, so that the rabbits could get inside for warmth, and have babies—something they do well and often. You want to make sure they

BUILDING FENCES AND OTHER STRUCTURES ARE GREAT PROJECTS FOR KIDS!

Projects like these can be used to teach proper and safe tool usage.

are not too cold, and out of the rain, so you should find a location that is also naturally sheltered, or sheltered in the shade of a garage or other outbuilding.

If you live in an area where snow is possible, you should look to see what other rabbit keepers in your area do. For example, to keep the rabbits warm, you could consider insulated walls for the hutch. I've even seen electric heating. Sometimes lots of alfalfa is put into the cages so the rabbits can create insulating nests.

NECESSITIES

Whether you choose an elevated cage or just an enclosed space, there are a few things that are essential. Rabbits chew all the time, so make sure your enclosure is secure. Check weak points all the time. We've had rabbits chew entirely through a 4x4 post that was part of the hutch.

They need a roof to give them overhead protection from rain and the sun. They need secure walls, usually hardware screen, which predators—which include coyotes, dogs and even possums—cannot get into.

WATER AND FOOD

Rabbits need a regular supply of water. Check it daily, and perhaps you can invest in one of those automatic watering devices that continually fills the bowl as they drink. We used heavy ceramic water bowls that didn't get knocked over easily.

You'll probably buy rabbit pellets, which are mostly alfalfa, at the feed store, along with other minerals that the rabbits need. You might also add various greens and fruits that they will eat as well. Ours really liked grapes.

BEDDING

For bedding, we built sturdy boxes out of old lumber that they could get into at night. These looked like oversized shoeboxes with the openings at one end, not open at the top. For the bedding material, many materials can work. One friend of

A rabbit hutch can be as basic or complex as you'd like.

They can make good use of garden and table scraps.

ours used shredded newspaper for the rabbit bedding, and when they cleaned, they put it all into their compost pile where it quickly decomposed. But for most, the choice is to buy a bale of alfalfa or hay, and use that. Alfalfa costs more, but it's better because the rabbits will also eat that. I always used alfalfa hay for the bedding.

MULTIPLICATION

If you give your rabbits the water and food they need, and if the temperature of their home is neither hot nor freezing all the time, they will eat and poop and make babies. Yes, your rabbits will multiply, which is the idea. It happens easily, and you just have to make sure the hutch is clean and that the babies are doing OK. You might be surprised how easy it is as long as the rabbits have all that they need.

HARVEST

Most rabbit raisers will cull when they start to have too many. If you've lived on a farm, you know what it means to butcher an animal. In the case of the rabbit, most of the time the rabbit was held and then whacked on the back of the head with a piece of two-by-four, which kills it. Then

The cleaner you can keep everything, the less odor will be present.

TAKE CARE OF THE CRITTERS AND PROVIDE FOR ALL OF THEIR NEEDS AS BEST YOU CAN!

Check your rabbits regularly for fleas, mites, and other pests that can cause problems.

you cut the skin from crotch to neck and pull off the hide. Once you do it a few times, it's rather elementary.

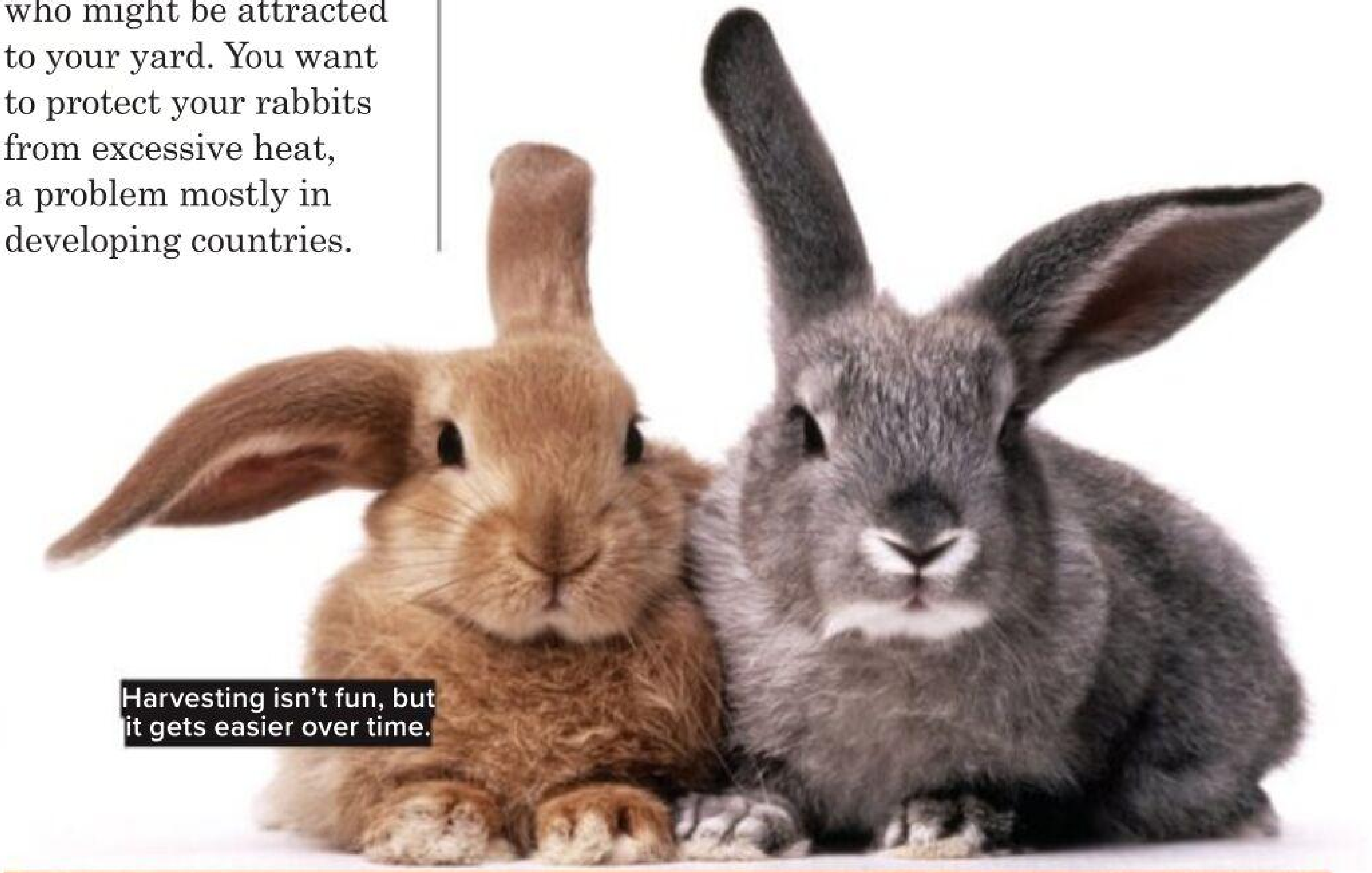
Then you clean the rabbit and prepare it for the dinner table in whatever manner suits you: fried, baked, in stews, and so on.

If you have to cull several at a time, you'll freeze the extras for later. If they begin to accumulate in your freezer, you can start bartering rabbit meat with your neighbors, or sell off some of the rabbits to others.

PROBLEMS

When rabbit breeders talk about problems they encounter with rabbits, the list is relatively short. Obviously, you want to protect your rabbits from predators, who might be attracted to your yard. You want to protect your rabbits from excessive heat, a problem mostly in developing countries. Your rabbits might get constipation if they get too much dry feed and too little greenery. A balanced diet resolves this problem.

Fleas, mites and lice can cause problems. This is why you should regularly inspect your rabbits. These can be treated at home with medications that you get from your veterinarian. I recommend you consult with a local vet or long-term rabbit breeders. They will probably recommend medications like Revolution or Advantage.



Harvesting isn't fun, but it gets easier over time.

RABBITS & WORMS

Because I was producing so much of my food from my fruit trees and garden, my primary interest in raising rabbits was first for the manure, and second for the hair, not food. Our rabbit hutch was situated directly over one-half of our large compost pit, which was framed with railroad ties. We were able to set the 4x4 legs of the rabbit hutch directly onto the railroad ties, so it sat there very securely. Since the floor was made of rigid screening, the rabbit droppings fell directly into our combination worm farm/compost pit. As such, we had minimal cleaning to do in the hutch. Because we had redworms working the soil, there was rarely any foul odor from the rabbit hutch. It was the nearly ideal situation, with the rabbits feeding the worms and with top-quality soil produced in the compost pit in a few weeks.

Christopher Nyerges has been teaching self-reliance and survival skills since 1974. He is the author of such books as *Extreme Simplicity: Homesteading in the City*, *Self-Sufficient Home*, *How to Survive Anywhere* and others. For information about his classes and books, contact School of Self-Reliance, Box 41834, Eagle Rock, California 90041, or visit schoolofself-reliance.com.

RELEASE THE

Ducks eat weeds as well as pests.

QUAKEN

Raising Ducks 101

BY K.H. KOEHLER

DUCKS HAVE A LOT GOING FOR THEM. THEY'RE PROLIFIC EGG LAYERS, PRODUCING MORE EGGS THAN CHICKENS, AND THEIR GENERALLY LARGER EGGS ARE AN EXCELLENT SOURCE OF PROTEIN, VITAMINS AND MINERALS.

Duck eggs boast more antioxidants and omega-3 fatty acids than chicken eggs, and duck meat is also more flavorful than chicken and is a good source of protein and iron.

Ducks will eat many types of pests that can damage plants. They also eat weeds, including dandelions, crabgrass and chickweed. Additionally, the manure they produce is an excellent fertilizer for the ambitious homesteader's garden as it is high in nitrogen, phosphorus and potassium, which are essential nutrients for young plants.

Whether you are a total beginner or an old hand at raising poultry, you may just find ducks to be an invaluable addition to your budding suburban homestead. Read on to learn if ducks are right for you.

LORD OF THE WINGS

Humans have been domesticating ducks for their meat and eggs for over 2,000 years, and archaeological evidence points to them being a valuable resource as far back as 4000 B.C. Ducks were popular with the ancient Egyptians and Chinese, as well as with early Europeans. Today, as a result of selective breeding, there are more than 150 domestic breeds.

DUCK SOCIETY

Ducks are social animals and should be kept in groups of at least two or three. As flock animals, they need the company of other ducks to feel safe and happy and to avoid health issues. Some ducks will get along well with other poultry such as chickens, geese and guinea hens—particularly if they are raised in a group—but don't count on everyone being best friends, as

Ducks do best in small groups as they are social creatures.

ducks can be far more aggressive than other types of poultry. Ducks and chickens forced into close quarters can lead to chickens sustaining injuries from their duck companions.

GETTING THEM IN A ROW

All ducks can be raised for meat and eggs. Some breeds, such as the larger Pekin, will render more meat than others. And some, uniquely the Pekin and the Khaki Campbell, are especially good layers and can produce as many as 300 eggs every year.

GIMME SHELTER

Ducks need a sturdy, secure shelter to protect them from the elements and predators. A duck house should be large enough for all of the ducks in the flock to have plenty of space to move around, and it should be well ventilated to prevent the buildup of ammonia fumes. A refurbished outbuilding or upcycled furniture such as a cabinet or armoire can serve as a perfect duck house.

WATER, WATER EVERYWHERE

It's important that ducks have a clean, fresh supply of water. Ducks like to swim and bathe, so it's best to provide them with a shallow pool or tub of water. In the winter, when water may ice over and not be as accessible, a small rubber container of water can suffice to allow the ducks to submerge their heads.

On average, ducks will provide you with more eggs than chickens.

DON'T WING IT

Ducks need a steady diet that is high in protein. Ducks are omnivores and will eat everything from plants and insects to small animals, including reptiles. Most farm stores sell feed specially formulated for the needs of ducks and geese, but you may still want to supplement their feed with table scraps.

PRO DUCK PLACEMENT

Once you have decided on adding ducks to your barnyard or backyard, it's time to prepare. Start with a small flock of three to five ducks. This will give you time to learn about their care and needs without becoming overwhelmed. Once you have learned how ducks are different from other types of poultry, you can then add more members to your flock.

- Research what kind of duck breed will fit your needs and which are suited to your climate. There are many different breeds of ducks available, each with its own unique characteristics. Some breeds are better suited to cold climates, such as Khaki Campbell, while others are better acclimated to

A kiddie pool is a fun treat for your ducks.

warmer regions, such as the more heat-tolerant Muscovy.

- Order your ducks online from a trustworthy breeder or purchase them at a reputable farm store. If buying locally, ducks are usually available for purchase in the spring or fall. If you are not interested in raising hatchlings, join a group of duck enthusiasts online to connect with owners wanting to sell or rehome adult ducks.

- When you get your ducks home, place hatchlings in a brooder. If you are purchasing fully grown ducks, you'll need to introduce them to your homestead slowly and under your careful watch. Never place fully grown ducks and other poultry together and leave them unsupervised.

DUCKS CAN BE AGGRESSIVE TOWARD OTHER BIRDS, SO WATCH YOUR FLOCKS CAREFULLY FOR ANY BEHAVIOR ISSUES THAT MAY CROP UP.

- Make certain you have a secure pen or run for your flock. Some duck breeds are talented jailbreakers, so you will want all fences to be tall enough to deter them from flying over and also buried or lined with rocks to prevent them from tunneling underneath. If you intend to raise ducks that can sustain flight, such as Muscovies or domesticated mallards, you will need to stretch poultry netting over the entire pen or run.

- Provide your ducks with fresh water and a healthy, balanced diet consisting of commercial duck feed. Consider starting a daily bird bucket in your kitchen or pantry for leftover food scraps and trimmings.

- Clean your ducks' enclosure regularly to prevent disease. Change food or water that has become soiled or dampened.

- Monitor your ducks for signs of illness or injury. Even though they are relatively hardy animals and more disease-resistant than chickens, they can still get sick. Ducks are also clumsy and can get themselves in a variety of fixes. Signs of illness or injury include changes in appetite, behavior or appearance. If you think your duck is sick or injured, isolate them and contact a veterinarian.

WADDLE CITIZENS

Enjoy your ducks! They are fun and rewarding animals to raise. Ducks are social creatures and make great companions. They are also relatively easy to care for, making them a good choice for people of all ages.

PREPARING DUCK FOR THE TABLE

Due to its higher fat content, duck must be prepared differently than chicken and other poultry. Follow this easy recipe that uses only two ingredients:

1 Preheat oven to 450 F (232 C).

2 Place the duck, breast up, on a rack in a roasting pan, prick the fat all over with a sharp fork and add an inch of water to the pan. Season with pepper and brush with soy sauce. Roast 30 minutes.

3 Flip the duck onto its back and season with pepper and more soy sauce. Add more water to the pan if necessary. Roast 20 minutes.

4 Flip the duck back over and brush with soy sauce. Roast 10 minutes.

5 Brush duck with soy sauce. Roast 10 more minutes or until the duck is brown all over and a thermometer inserted into the thigh registers 155 F (68 C).

6 Let rest 5 minutes before carving. It's great when served with your favorite orange sauce.

Always supervise introducing full-grown ducks to other homestead critters.

IF YOU NOTICE ANY HEALTH ISSUES, ISOLATE THE DUCK IMMEDIATELY AND CALL YOUR VET!

CHAPTER 3

FRUGAL LIVING

HOMESTEADING COST MONEY, SO THE MORE YOU CAN SAVE WHILE DOING IT, THE BETTER!

There is no other stress quite like financial stress.

I'M BROKE!

How to survive when you can't pay the bills

BY DAISY LUTHER

LET'S TALK ABOUT WHAT IT'S LIKE TO BE TRULY BROKE. I'M NOT TALKING ABOUT WHEN YOUR FRIENDS INVITE YOU TO GO SHOPPING OR FOR A NIGHT OUT AND YOU SAY, "NO, I CAN'T. I'M POOR RIGHT NOW."

I don't mean the scene at the grocery store when you decide to get ground beef instead of steak.

I'm talking about when you have already done the weird mismatched meals from your pantry that are made up of cooked rice, stale crackers and a can of peaches, and you've moved on to wondering what on earth you're going to feed your kids.

Or when you get an eviction notice for nonpayment of rent, a shut-off notice for your utilities and a repo notice for your car—and there's absolutely nothing you can do about any of those notices because there is no money.

I have been this broke. I know it's soul-destroying when no matter how hard you work, how many part-time jobs you squeeze in, and how much you cut, you simply don't make enough money to survive in the world today.

DO THE MATH

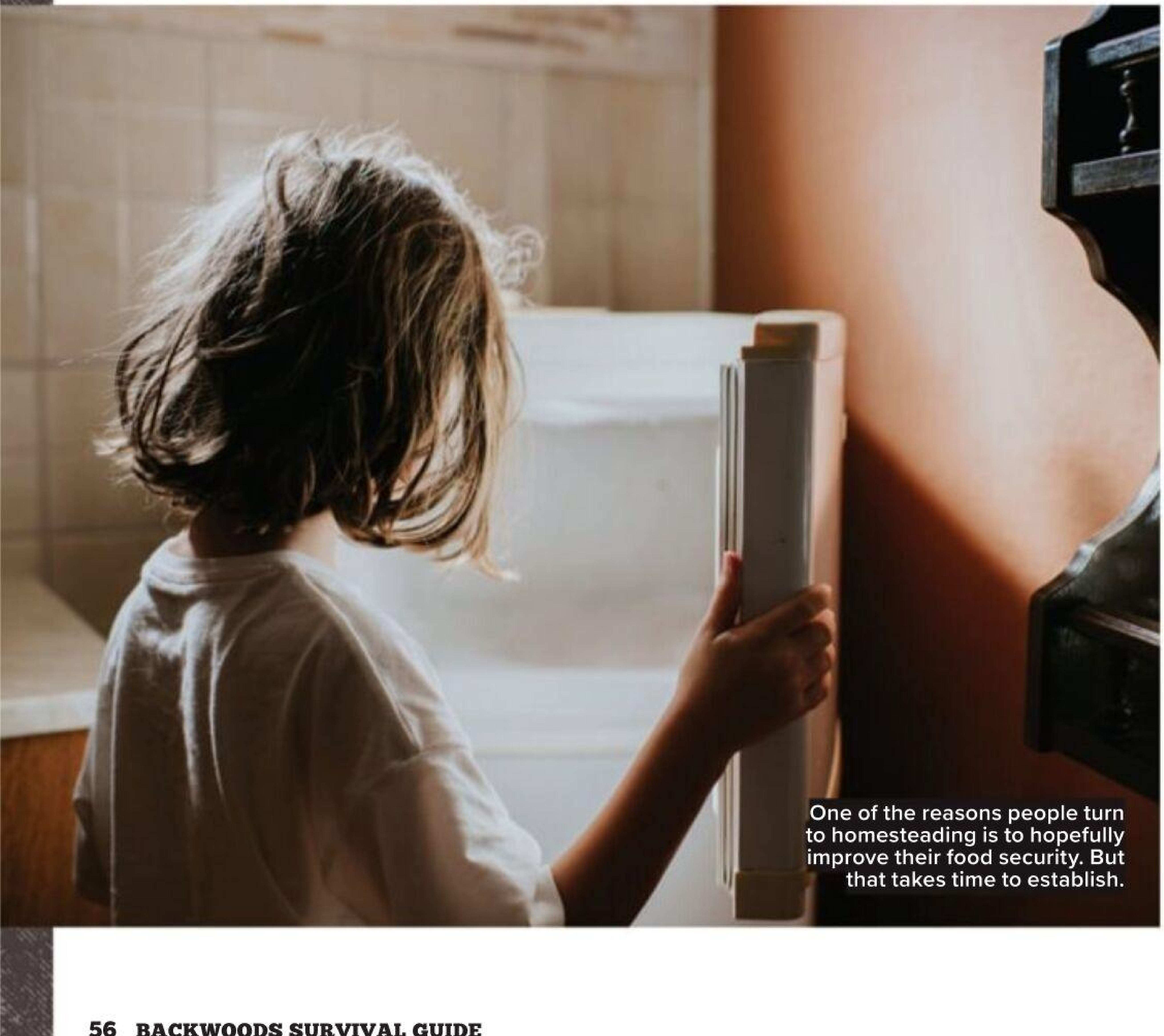
If you're at this point and an emergency pops up, like job loss, a car repair or a medical bill, you may reach the point that the math no longer adds up. You simply cannot pay all your bills. The advice I have may not be popular, but let's talk about prioritizing your payments when you can't pay your bills. I'm not promoting irresponsibility here. It's just math.

When you have less money coming in than you have obligated to go out, you will not be able to pay all your bills. It's that simple. First, do a quick audit of your financial situation so you can see where you sit.

Then, prioritize. I know that you want to pay every single bill but that may not be possible right now. When you get your feet back on the ground, you can set up payment plans for the things you had to set aside while you were busy trying to survive.

This list of priorities assumes that you have some money coming in, but not enough to meet your obligations. Should we all pay the bills that we have promised to pay? Of course. Our word is very important. Remember, though, the information here is for people who are in a position in which they do not have the money to pay. This should be a temporary problem.

ONCE YOU CAN GET YOUR FINANCES UNDER CONTROL, SO MANY OTHER ASPECTS OF HOMESTEADING WILL GET MUCH EASIER.



One of the reasons people turn to homesteading is to hopefully improve their food security. But that takes time to establish.

PRIORITY 1

SHELTER

Your No. 1 priority is keeping a roof over your head. That roof may not be the roof of the house you are in now if your circumstances have changed. If you can still manage to pay your rent or mortgage, do so in order to keep your family housed.

If you rent and the price is reasonable, make this the first payment you make from your limited funds. If you own, consider your property taxes and insurance as part of your mortgage because if you stop paying any of these, your home will be foreclosed upon.

If you can't pay your mortgage, property taxes and insurance, you have a while before the home gets foreclosed on and you are forced to move out. If this is the case, it's essential that you put aside money for the place where you'll move should you have to leave your home. You're going to need first month, last month and deposits in many cases, particularly since your credit isn't going to be stellar due to your financial situation. Save what you'd be paying for your mortgage for your move.

The bottom line is this: Either pay your housing costs or put aside money for future housing as your first expenditure.

PRIORITY 2

FOOD

You have to eat, and so do your children. If you don't eat, you'll get sick, and then your situation will be even worse.

Be prepared to take a hard and honest look at where you sit right now, so you can plan for the future.

Anyone who has truly been there will tell you that being flat broke is an awful situation to be in.

FORECLOSURE LAWS

Foreclosure laws vary from state to state, but here is the general timeline:

When you let your house go back to the lender, you'll have one to two months before they send a notice of default. You usually have three months before the foreclosure proceedings begin.

Eventually, you'll get a notice to vacate the premises. You have two options: Move to a different home or file for bankruptcy.

If you file for bankruptcy, the home can't be resold by the lender for three more months.

It's essential that the money you would normally pay to your lender is set aside for moving expenses.

Stick to wholesome basics and cook from scratch. Beans and rice have fed many a family. Save all of your leftovers, even the ones on people's plates. Add them to a container in the freezer and make a soup from that at the end of the week.

Don't skip meals in order to stretch your food further.

Go to the library, check out a book on local edibles and go foraging.

See if your grocery store sells out-of-date produce for use for animals. There's often a fair bit you can salvage for humans.

In a worst-case scenario, food banks are an option as well.

PRIORITY 3

ESSENTIAL UTILITIES

Cut your utility usage to the bare minimum to keep your bills as low as possible. If your utilities get shut off, it's going to be difficult to cook from scratch and keep leftovers from spoiling. You need the water running from your taps to drink, cook with and clean. Depending on the climate and the season, heat may be vital.

If you can't pay the entire bill, call and make payment arrangements. If your utilities are shut off, then you'll have a hefty reconnection fee on top of the bill.

PRIORITY 4

TRANSPORTATION AND WORK NECESSITIES

What must you have to keep working? For me, it's the internet, since I work online. Driving to the library daily would cost more than my monthly internet bill.

For others, this necessity might be the cost of public transit or keeping their vehicle on the road to get to work. Choose the least expensive options to keep yourself working.

PRIORITY 5

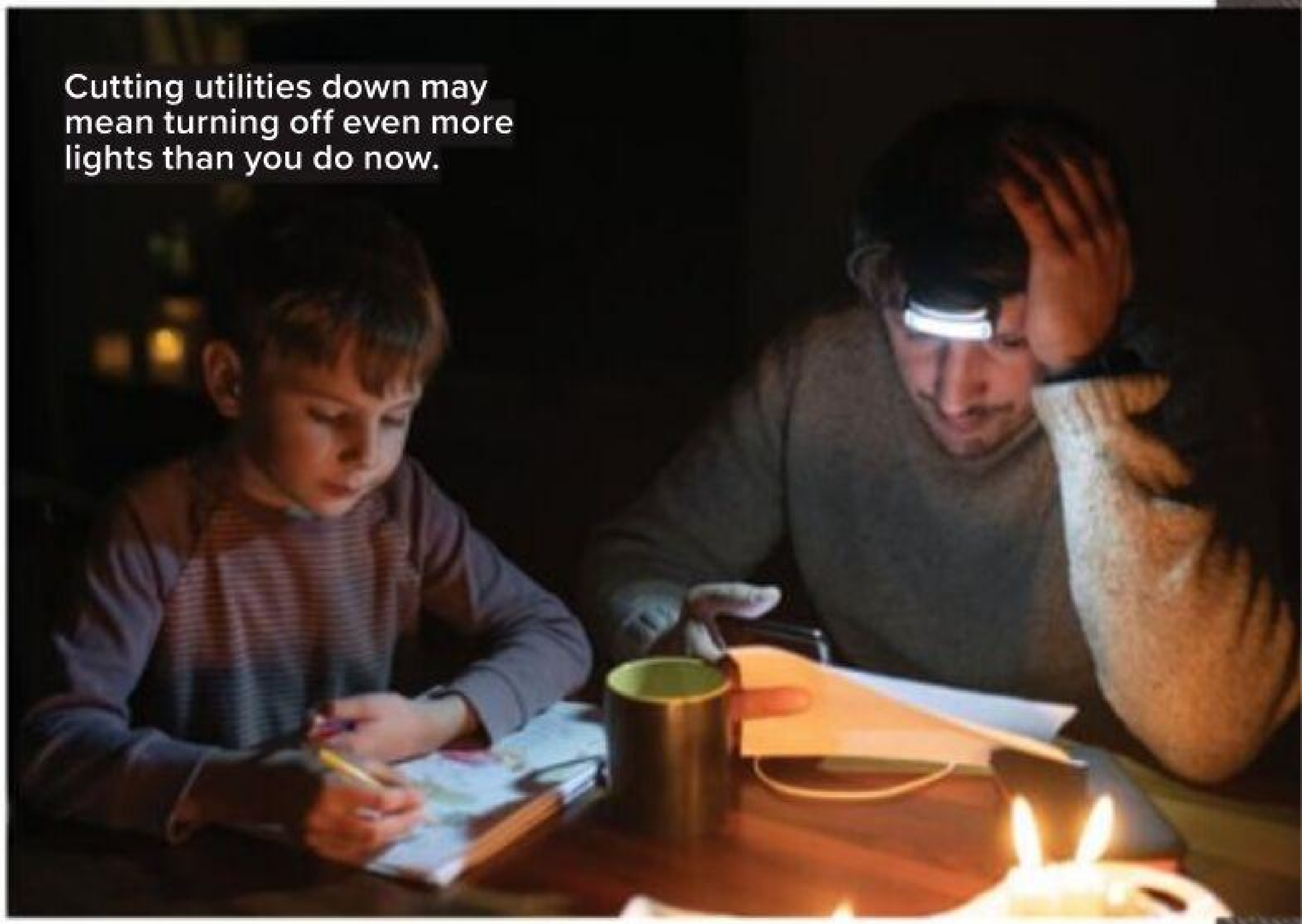
WHAT'S LEFT

After you've paid all of the above, use any money left over to pay your other expenses. These include debt and contracts you are involved in, such as cellphone service. Choose carefully how you dole out your remaining money.

Keep one phone. Compare the cost of a cellphone, landline and VoIP (voice over internet protocol) phone. Each family member does not require a phone.

If the minimum payments on your debts are not possible, you may have to default, at least temporarily. Be relentless in deciding what will be paid and what won't. This is not the time for arguments like, "We deserve this one luxury." Cut all nonessentials until things improve.

Remember, things will get better.



Cutting utilities down may mean turning off even more lights than you do now.

Daisy Luther is a prolific writer and you can find more of her articles on her website, theorganicprepper.com. You can find her books in PDF format on her website bookstore and in paperback at traditional bookstores and on Amazon. She is the single mom of two wonderful daughters and four furry beasts.

SLASH EXPENSES

Keep more jingle in your pocket

BY JIM COBB

ONE OF THE BIGGEST STRESSORS IN OUR LIVES COMES DOWN TO FINANCES. FAMILIES FIGHT ABOUT MONEY MORE THAN PROBABLY ANYTHING ELSE.

The size of the grocery bill is rarely a good surprise.

When you're flat broke with no end in sight, it's a particularly brutal way to live. A woman I once worked with observed that when you're financially strapped, every little thing that goes wrong can have a catastrophic impact. Even a $100 car repair can topple the house of cards that is the household budget.

Let's look at a few ways we can get things under control.

TRACK SPENDING

You have to have a good handle on where your money is going before you can plug holes. It starts with keeping track of every single nickel you spend. This isn't a fun exercise, but it needs to be done.

Every time you spend money, jot a note as to how much you spent and what it was spent on. This doesn't need to be anything elaborate, but it's important to do it for everything that comes out of your wallet or bank account.

Track your spending for just a week to start. Look back on those notes and see if there are things you can cut without even noticing them much. Vending machines at work are a common budget thief. You'll save money by bringing snacks from home to keep in your desk. And let's face it, the Wheel of Death isn't offering you anything you really should be putting in your body, right?

SCRATCH COOKING

If there was one positive that came out of the COVID pandemic, it was the number of people who discovered, or rediscovered, cooking at home. Granted, it was a lot of artisanal breads and other carb-heavy treats. But still, it was nice to see so many people remember that not every meal needs to be delivered to their home.

Cooking from scratch is a great way to reduce expenses. While the

prime video
N
Disney+
sky SHO
hulu
HBO max
TV

THERE ARE SO MANY PAY STREAMING CHANNELS TODAY, IT'S JUST LIKE PAYING FOR CABLE!

Odds are you could go without streaming services, at least until you get your budget under control again.

grocery bill for a roasted chicken dinner with a few sides might seem kind of pricey at the checkout, consider how many meals you'll actually get out of it. Unless you have a couple of teenagers at home, odds are you'll have enough leftovers for at least one more meal, possibly two if you count chicken sandwiches for lunch at work. Then you can make stock from the carcass and use it for soup.

It gets even better if you intentionally cook enough to ensure leftovers to last a few days. It's easy to do that with things like soups, stews and casseroles. This approach not only saves money, but also time, as you won't need to cook a full meal each night.

Learning how to cook actual homemade meals is fun, nutritious and frugal.

CANCEL SUBSCRIPTIONS

Go through your bank account and make a list of every subscription you pay each month. These include things like:

- Internet
- Cable TV
- Streaming services (Netflix, Hulu, Disney+, etc.)
- Meal delivery services
- Gear boxes
- Gym memberships
- Satellite radio

Look at the list you made and decide which ones you truly need. Odds are pretty good you could go without at least some of them for a while. We haven't had cable TV service in our home for close to 20 years, and haven't really missed it. Any shows that we want to see that aren't offered through the few streaming services we have, we just wait for them to come out on DVD and get those from the public library.

Once upon a time, I would have insisted on keeping home phone service, as it used to be that it would still operate during a power outage. These days, more and more companies are coupling the home phone with the internet. This is called voice over internet protocol, or VoIP. If the power goes out, so does your modem, which kills both internet and telephone service.

If you haven't been to the gym in weeks or even months, cut your losses. You can always do pushups at home. Simple body-weight exercises coupled with healthier eating will go a long way.

When you call to cancel subscriptions, there's a good chance the company will try to keep your business by offering you a temporary discounted rate, sometimes deeply discounted. Use your best judgment and handle that on a case-by-case basis. I used to spend a lot of time driving for my job and loved to listen to satellite radio. But it was pricey, so once the initial promo rate expired, I called to cancel. The rate they offered was about 20% of what I'd been paying, and they locked it in for a full year. I couldn't pass up that deal.

SHOP AROUND FOR INSURANCE

When it comes to insurance for our vehicles and homes, we tend to be pretty complacent. It can be very much like that story about a frog in a pot of water put on to boil. The temperature goes up so slowly, the frog doesn't realize it's in trouble until it's too late. The same sort of thing applies to insurance premiums. The price often goes up so incrementally that it doesn't get our attention. Then one day, you realize you're paying nearly double what you were five years ago for the same coverage.

A good start would be reaching to your existing policy providers and making sure you're taking advantage of every discount they offer. Auto insurance policies often have a discount for good drivers. Homeowner policies might offer a few bucks off if you prove you have smoke detectors and a burglar alarm system in place.

You could also look at increasing your deductibles. Doing so will often lower your premium. But make sure you understand exactly how the increased deductible will impact you in the event of an accident.

Once you have those rates as low as they'll go, shop around to competitors and see what they'll offer you. This can take time, but you might be surprised at how much you can save by switching.

One word of caution. Make sure you're comparing apples to apples. Go line by line with the coverages and ensure they line up so you're getting a fair and honest comparison.

DEBT MANAGEMENT PLANS

If things are truly out of control with the budget, you might consider reaching out to a nonprofit debt management outfit. There are several companies out there that offer this service. In a very broad, general sense, what they will do is negotiate with your creditors to arrange a repayment plan that's workable for you. You'll make one payment each month to this company and they disburse the funds to the various companies you owe.

Downsides include paying fees for their services as well as having to sign on for as long as three to five years. In some cases, though, this might be the best approach to getting back on your feet.

Before committing to any major life change, such as moving, evaluate your budget and make sure the change makes sense.

MOVING INTO A NEW PROPERTY CAN BE EXCITING, BUT IT'S OFTEN LOADED WITH ADDITIONAL EXPENSES YOU MAY NOT HAVE ANTICIPATED.

TRADE AND BARTER

Building resilient communities

BY CRAIG CAUDILL

IN MY HOME STATE, WE DEALT WITH AN INCREDIBLY DEVASTATING TORNADO THREE YEARS AGO, FOLLOWED BY MASSIVE FLOODING THE FOLLOWING YEAR, AND FLOODING AGAIN THIS YEAR. ONE THING HAS STOOD OUT FOR ALL THE RESCUE PERSONNEL AND RESPONDERS TO THESE EVENTS.

TRADING THIS FOR THAT IS A LONGTIME TRADITION, PARTICULARLY IN RURAL AREAS!

Establishing these types of relationships now could be important during a crisis later.

That one thing is how important and lifesaving it was to work with others in the community who are experiencing the tragedy. We all have had ample experience in the past few years that grocery store shelves are unpredictable, inflation continues to rise and supply chain disruptions seem inevitable. Suburban homesteaders are rediscovering the time-honored practice of bartering and trading within their communities. Unlike the dramatic postapocalyptic scenarios often discussed in survival circles, this type of trade isn't about desperate exchanges for food and medicine but about fostering relationships, strengthening local networks and ensuring sustainability among like-minded individuals.

Bartering in suburban homesteading is about exchanging skills, goods and services to increase self-sufficiency and reduce dependence on outside systems. Whether it's swapping fresh eggs for homegrown tomatoes or trading carpentry skills for auto repairs, these exchanges create a foundation of resilience within a community.

Building a strong barter economy within your neighborhood or local network takes intentionality. While doing any of this can be started very organically, there is nothing wrong with working to make it happen in your neck of the woods. Here are some foundational steps to get started:

ASSESS SKILLS AND RESOURCES

Before you can effectively barter, take an inventory of what you have to offer. Many people think of trading only in terms of tangible goods, but services are equally valuable. Ask yourself:

- What do I grow, raise or produce that others might need?
- What tools or equipment do I have that could be loaned or traded?
- What skills do I possess that could be valuable to my community? This is the most overlooked of the three listed here. You never know when something as simple as self-defense, medical knowledge, logistical planning and leadership skills will be desperately needed during a disaster.

You might find that you have far more to offer than you initially thought. A beekeeper may have honey and beeswax to trade, while a mechanic could offer oil changes. The key is recognizing the value of what you already have.

Development of wilderness skills is good for your health and good for the community as well.

I have a company I am working with right now that is going to trade me writing for them in exchange for products I can sell in my online store. I like those kinds of deals.

Setting up field cooks for community get-togethers is incredibly valuable.

ANY TIME YOU CAN INCLUDE FOOD IN A GATHERING, IT TENDS TO DRAW A CROWD!

IDENTIFY POTENTIAL TRADE PARTNERS

Next, look around at your friends, family and neighbors. Who is already engaged in some form of homesteading, gardening, animal husbandry or skilled labor? Begin conversations to gauge their interests and needs.

Starting small with a few trusted individuals can help establish a reliable trade network before expanding. Even if someone isn't a homesteader, they may have a skill set you need—such as plumbing, electrical work or food preservation techniques. As our society continues the path of advancing industrialization with technology, many of the trades are held by a few capable individuals. You may be one of those people, and you are valuable to your community.

BUILD A NETWORK

Once you've identified key trade partners, consider organizing a formal or informal community exchange network. This can be as simple as a private social media group or a text chain where members post what they have to offer and what they need. One of my communities uses the encrypted app Signal so it is not public information and is by invitation only.

Some communities hold seasonal barter fairs where participants bring surplus goods and trade them in person. These events not only facilitate exchanges; they also strengthen relationships and build trust among community members. Think about community wide yard sales but on steroids. Everyone brings stuff people want, not just the things everyone wants to discard.

WHAT MAKES A GOOD BARTER?

For bartering to be effective, both parties must feel they are receiving equal value. Consider these principles:

- **Fair Exchange** Ensure both sides see the trade as beneficial. If needed, include additional goods or services to balance out an uneven swap.

- **Mutual Agreement** Clearly define expectations. If trading a service, agree on timelines and specific deliverables up front.

- **Trust and Reputation** The more you trade within your network, the more credibility you build. Honesty and follow-through are crucial for maintaining a strong barter economy. This includes all members calling out those with dishonest dealings. In that manner, everyone knows honesty is expected.

PRACTICAL EXAMPLES

To illustrate how bartering can work in a suburban setting, here are a few real-world examples:

- **Eggs for Vegetables** A neighbor with laying hens trades eggs for a steady supply of organic produce from another's garden.

- **Meat for Home Repairs** A family raising backyard rabbits exchanges processed meat for home maintenance services. It was common for my family to trade beef for numerous services when I was growing up. Most of it was farm repair issues. My dad and I knew how to raise cattle, but we were not too good at fixing tractor issues.

- **Canning for Car Repairs** Someone skilled in food preservation barters homemade jam and pickles for minor vehicle repairs.

- **Child Care for Firewood** A stay-at-home parent offers occasional babysitting in return for firewood delivery before winter. This is one of those valuable practices that, by involving the kids, helps them see the value of these efforts as well.

Mentoring others in new skills development goes a long way when first responders are needed.

COMMON CHALLENGES

While bartering and trading have many advantages, challenges can arise. Here's how to address them:

- **Valuation Discrepancies** One person's perceived value may not match another's. To prevent disputes, be clear about what's being offered and consider using a neutral third party if needed. This is why a good communication group, like a texting group, can help quell issues. It can also cause massive disagreement. Learn how to communicate effectively to avoid such disagreements.

- **Legal Considerations** Depending on your state or locality, certain trades (such as home-processed foods or raw dairy) may have legal restrictions. Know your local laws and operate within them to avoid issues. If you choose to operate outside those legal mandates, do so with a full and complete understanding of the possible consequences. Have a solid plan for how you'll handle these issues if they become problems.

Commitment Issues Occasionally, people may fail to deliver their side of the bargain. Establishing trust through small trades before engaging in larger exchanges can help minimize risks.

STRENGTHENING THE HOMESTEAD

Bartering and trading within your local network isn't just about exchanging goods; it's also about forging strong relationships, increasing independence and ensuring that everyone within the community thrives. By identifying skills, seeking out trade partners, and maintaining fair and trustworthy exchanges, suburban homesteaders can create a resilient, sustainable barter economy that benefits everyone involved.

In a world of fluctuating economies and unpredictable supply chains, there's no better time than now to establish these vital trade relationships. Start small, build trust and watch as your community flourishes through the power of mutual support and self-reliance. You'll find that it will work nicely for disaster readiness as well.

Tracking is a great skill to develop because it includes an effective team-building component.

STARTING A COMMUNITY TRADE LEDGER

For more structured trading networks, consider maintaining a community trade ledger. This can be a physical notebook or a digital spreadsheet where members log their exchanges. Keeping records helps prevent misunderstandings, tracks valuable trade relationships and allows participants to see patterns in supply and demand within their community. It can also bring attention to goods and services you may not be aware of. This can easily be done on a social media group.

Craig Caudill is the director of Nature Reliance School and a bestselling author known for his expertise in survival, bushcraft and tracking. Whether you're looking to sharpen your outdoor skills through hands-on training or prefer to learn from the comfort of your home, Craig offers in-person courses, and an immersive online school designed for all experience levels. Explore the full class calendar and start training with Craig today at naturereliance.org.

REPAIR CABINET

Basic tools and supplies to have on hand

BY DANA BENNER

AS I WRITE THIS PIECE, THE SNOW IS FALLING HEAVILY, THE WIND IS BLOWING AND TREE LIMBS ARE FALLING EVERYWHERE. I'M JUST WAITING FOR THE POWER TO GO OUT, AS IT OFTEN DOES, AND SOMETHING TO CRASH THROUGH THE ROOF OR ONTO THE SHED.

Take the time to learn the skills needed to handle basic fixes around the house and homestead.

If you were in this situation, could you make the repairs needed, even temporary ones? Do you have tools and supplies on hand to do the job? Things rarely happen when conditions are ideal, like having power. For that reason, we will not be covering electric-powered tools here.

When it comes to tools, I always recommend that people get the best that they can afford. My father always said that you pay for a good tool once, but you pay for a poor tool for a lifetime. Having good tools could be the difference between getting the job done and not.

SHOP AROUND FOR THE BEST PRICES AS YOU ASSEMBLE YOUR TOOL COLLECTION. YOU CAN SOMETIMES FIND GREAT DEALS AT YARD SALES.

HAMMERS

There's a hammer for every job, so on the Benner homestead there's a variety: framing hammers, finish hammers, roofing hammers and sledgehammers, to name a few. To keep it simple, there are two types you should have on hand: a good 20-ounce framing hammer and a sledgehammer. A framing hammer is heavy enough to put up the walls of a shed and nimble enough to replace roof shingles. A sledgehammer has many functions, ranging from pounding in fence posts to driving a wedge into a fallen tree.

A bow saw is a great tool to have when it comes to dealing with fallen tree limbs.

SAWS

Like hammers, there is a saw for every job. I have numerous saws, but there are a few that I use all of the time, including a hand cross-cut saw, a hand rip saw, a hand miter saw, and a bow saw. Cross-cut saws are made to cut lumber to length, whether it is a two-by-four or a piece of plywood. Rip saws are made to cut lumber to width. A miter saw is used to cut angles, and a bow saw is made to cut timber such as a fallen tree limb. If I were just starting out, the two saws I would want are a cross-cut saw and a bow saw.

WRENCHES

Every home should have a good assortment of both regular and socket wrenches, in standard and metric sizes. Believe me, you will use them. Whether it's a bolt on the washing machine, working on the generator or putting a clamp around a quick fix of a busted water pipe, you will need wrenches.

SCREWDRIVERS

At one time the heads of screws were either slotted or Phillips heads. This meant that you only needed a few different size screwdrivers in each style. Now, screw heads come in a wide range, with the most popular today being hex and Torx. With that being said, it is best to be as

A BASIC SET LIKE THIS ISN'T TOO EXPENSIVE AND SHOULD MEET MOST OF YOUR NEEDS!

prepared as possible. You just never know what you will run into. I recently went out and bought a multiple bit screwdriver that covers most of them, and I'm glad that I did.

AX

No home should be without a good ax. An ax may not be something you will use often, but when you do need one, you'll be glad that you have it. If nothing else, it is great for splitting small pieces of wood to feed into the woodstove.

UTILITY KNIFE

In my opinion, this is probably one of the best all-around tools to have. You can cut through drywall to get to a leaky pipe, or cut a roofing shingle to repair a hole in the roof. In a pinch, it can be used to strip the plastic coating off a wire.

TARP

I have a few tarps in the shed, just in case. Tarps can be used as quick fixes for broken windows or doors, and holes in the roof. They aren't the ideal fix, but when it is snowing and the wind is blowing, they will buy you some time to get materials together to make a proper fix.

SUPPLIES

All the tools in the world are useless if you don't have the supplies on hand to make the repairs needed. Obviously, you more than likely will never have everything that you may need, but you should enough supplies that will enable you to make at least temporary fixes.

As the name implies, hose clamps are made to clamp two connections together. Think of the hoses on your vehicle. These clamps come in a variety of sizes and have many uses in the home, especially when it comes to plumbing. I have a couple of coffee cans full of them, just in case.

I can't tell you how many times that a simple tie-wrap has been used in a repair around the homestead. I have used them to hold wires and other things out of the way while making a repair, as well as holding a pipe in place while I made a connection. Then there is just using them to keep wires in a neat bundle. Tie-wraps are not my first choice for many things, but it is good to know that I have some when needed.

There is nothing worse than have something break and not having the right size nut, bolt or screw to put it back together. For that reason, I have numerous coffee cans full of these items. I also have many small boxes of assorted finish, framing and roofing nails. This way, I can always make do when I need to.

If you have asphalt shingles on your home, then you should have a spare bundle of shingles set aside in case you need to make repairs. Having an assortment of lumber on hand is always a good idea as well. I have fixed many a roof with a few small pieces of plywood and those spare shingles. One last thing, and this may sound funny, but it is always good to have a few rolls of duct tape and electrical tape.

Is this list the end all to the tools you should have? Of course not, and I'm sure you all can name items I have missed. These are just basic things that you should always have on hand. With the tools and supplies listed, you should be able to handle most problems as they arise, at least until you can get them properly repaired.

A small ax or hatchet is good to have on the homestead.

Make sure you know what you're doing when you're handling electrical repairs.

A FEW MORE THINGS

Here are some more items that you might consider adding to your repair cabinet.

- **Wire cutters** A good pair of lineman's pliers has multiple uses, including cutting wire.

- **Multimeter** Multimeters are used to measure electrical current. With all of the electrical items we have, using a multimeter may save you time and money.

- **Miter box** A miter box, when used with a miter saw, will assure your angle cuts are right on the money.

- **Speed square** Whether you are fixing a wall in your home, building a shed or putting in a flight of stairs, it is important to keep everything square. A speed square is small enough to carry in your utility belt and thus use often.

- **Hacksaw** If you have to cut PVC or metal pipe, you will need a hacksaw. Like some other tools, this one may not get used much, but when you do need one, it's worth its weight in gold.

Water is a necessity and it falls freely from the sky. You just need to catch it.

RAINWATER CATCHMENT

Harvesting a precious resource

BY JIM COBB

WHETHER WE'RE HOOKED TO A MUNICIPAL WATER SOURCE OR WE HAVE A WELL, OUR LIVES ARE TIED TO WATER. WE USE IT FOR SO MANY THINGS, FROM WATERING OUR GARDENS TO CLEANING OUR BODIES. WATER IS TRULY ONE OF THE MOST VALUABLE RESOURCES IN THE WORLD, YET WE OFTEN TAKE IT FOR GRANTED. WHAT IF WE TURN THE TAP BUT NOTHING COMES OUT?

An excellent way to get started with self-reliance is to set up a rainwater harvesting system. Many people are surprised at just how much water can be collected in a single rainfall. For every square foot of roof, 1 inch of rainfall comes to 0.6 gallons of water. Let's say you have a 700-square-foot roof, here's the math. If you receive 1 inch of rain during a storm:

700 x 0.6 = 420 gallons of water

No system is perfect and you won't be able to collect every drop, of course. But even if you can only manage 75%, that's still over 300 gallons of water from just one rainfall.

There are three main components to any rainwater harvesting system; catchment area, conveyance and storage.

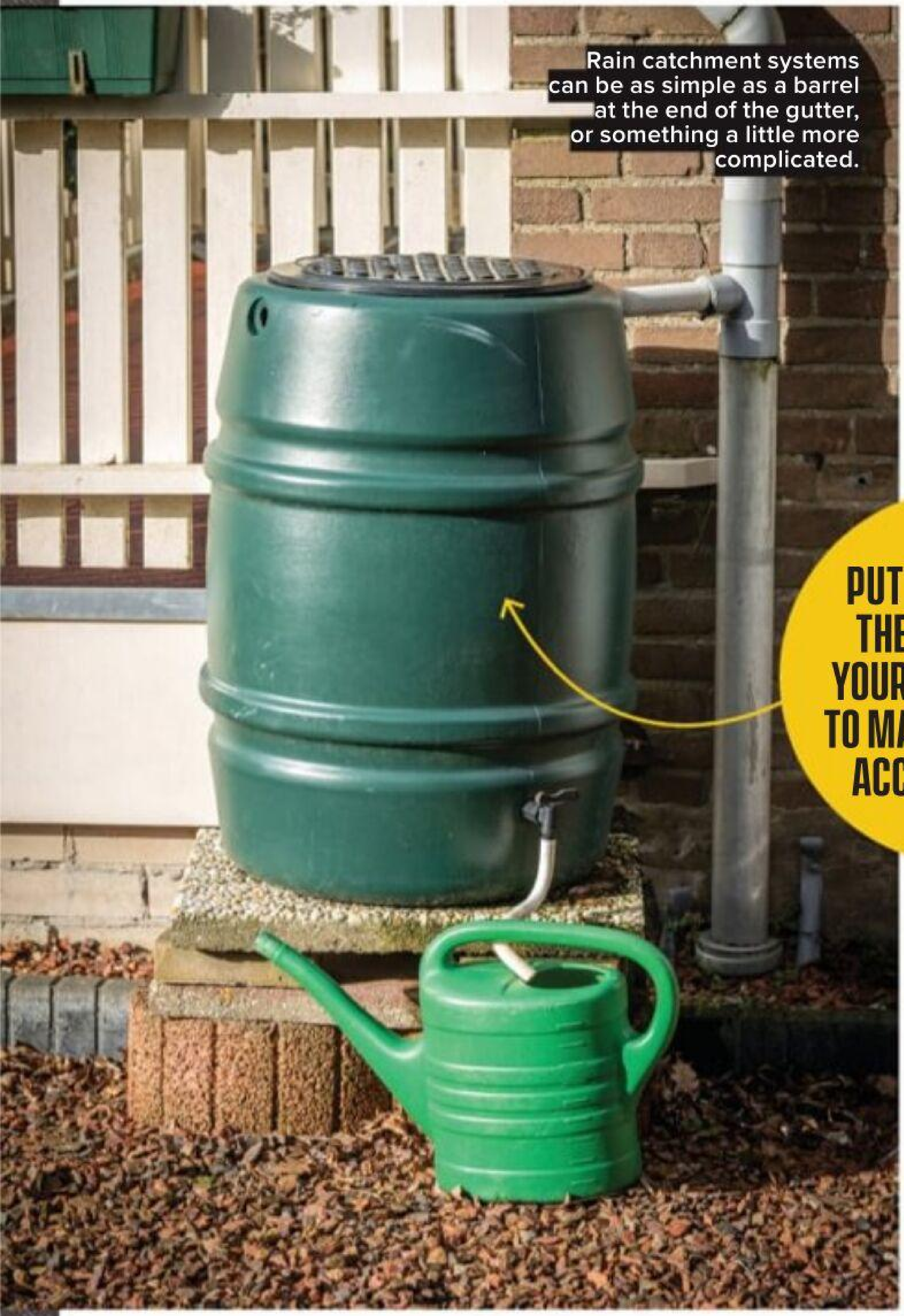
CATCHMENT AREA

The first step in the system is the catchment area. This is where the rain falls, which is typically the roof of the house or other structure. As we saw before, the size of the catchment area determines how much water you are able to collect.

As it falls, rain is usually very clean. However, once it hits the catchment area, it will pick up contaminants. There are a few different types of roof materials that are in common use in the United States. Asphalt shingles are probably the most common in many parts of the country. When rain hits these shingles, the water absorbs dissolved organic carbon (DOC). This isn't normally very harmful to us, but when chlorine is added to the water, which is a common method of purification, the chlorine combines with the DOC to create chemicals that can cause cancer.

Metal roofs are a better option than asphalt, all other things being equal. However, if the metal is untreated, it could leach zinc into the water.

No matter what the roof material is, the rainwater will probably become contaminated with fecal coliform bacteria, which comes from the feces of warm-blooded animals.



Rain catchment systems can be as simple as a barrel at the end of the gutter, or something a little more complicated.

PUT A SPIGOT AT THE BOTTOM OF YOUR RAIN BARREL TO MAKE IT EASY TO ACCESS WATER!

CONVEYANCE

In almost all cases, a gutter system will be transport the water from the roof down to the storage containers. This system can be very simple or very complex, depending on your needs. At the most basic level, a gutter runs the length of the roof, collecting the water running down. A downspout on one end directs the water down to ground level.

Some systems will connect the downspouts on different sides of the structure, directing all of the water into one container. Others will have containers at each downspout. The downspouts should obviously terminate at the rainwater collection containers. There are devices you can install on the downspouts that will divide the water flow between two containers, should that be necessary for your system.

It is important to clean the gutters regularly. This will not only keep the system running more efficiently, it will reduce the contaminants in the water. If you're not able to do it yourself, either install some sort of gutter shield or pay one of the neighbor kids to climb the ladder. Downspouts should also be inspected regularly and cleared as needed.

WHENEVER POSSIBLE, POSITION YOUR RAIN CATCHMENT CONTAINERS NEAR WHERE YOU'LL BE USING THE WATER THE MOST.

Your home and most of your outbuildings can be outfitted with gutter systems.

Clean your gutters regularly to prevent problems like ice dams in the winter.

WASHING OUT GUTTERS WITH A HOSE IS A GREAT WAY TO CHECK FOR BLOCKAGES!

CONTAINER

Probably the most common container in a DIY rainwater harvest system is a 55-gallon barrel, typically plastic rather than metal. Another one that can be found in some areas is a pallet tank or intermediate bulk container (IBC) tote. These hold 275 gallons and are typically used to transport bulk liquids or granulated substances.

Most garden shops and home improvement stores sell ready-to-use rainwater collection containers, too. They come in a wide range of sizes and styles.

Make sure whichever container you decide to use is food grade and was only ever used to transport food. If the container has been used, it will need to be thoroughly cleaned.

The container should be covered and fitted with screening of some sort where the water enters to prevent bugs, leaves and such from getting into it.

Many systems are set up with multiple containers connected in a chain so as to capture as much rainwater as possible.

Once the water is in the containers, you'll need a way to get it out to use it. Most folks install some sort of spigot near the bottom of the container. The container is placed on a raised platform and gravity does the work.

WATER TREATMENT

Because the water will be contaminated by whatever is on the catchment area, it should not be consumed, used for critters or used in the garden without first being treated in some way. It can, however, be used untreated to bathe, to wash the car and for other such activities.

There are a variety of filtration options to consider. It is important to ensure whatever method you choose will remove not only biological contaminants like bacteria, but also any chemicals that may have leached into the water from the roof material. Not all filters will remove the same contaminants.

Note, though, that DIY purification methods like boiling will not remove any chemicals that may be present. In fact, boiling will increase the concentration of the chemicals, as some water is lost through steam.

MAINTENANCE

As noted earlier, the conveyance system should be cleaned on a regular basis. The gutters don't need to be scrubbed, but all leaves and other debris should be removed weekly or as needed.

If you live in an area that experiences freezing temperatures in the winter, the rainwater containers should be drained in the fall. Otherwise, any water inside could expand upon freezing and crack the container. The containers should also be scrubbed out every couple of years or when you notice there is a build-up of dirt and such. With just a little maintenance, the system should last for many years.

LEGALITIES OF A HARVESTING RAINWATER

Sad to say, but there are some areas of the country that do not allow rainwater harvesting, though this is changing. Even if there are no laws on the books forbidding it, some homeowners associations (HOAs) don't allow it, possibly for aesthetic reasons if nothing else.

Do yourself a favor and make sure you won't be in violation of any laws, ordinances or HOA rules before going to the trouble of setting up a rainwater harvesting system. It makes little sense to expend the money, time and energy putting it all together, only to have to remove it later.

CHAPTER 4

KITCHEN HELPS

EVERY HOMESTEAD NEEDS A COOK, AND EVERY COOK CAN USE THESE TIPS AND TRICKS!

Some couples like to divide the kitchen work and make it fun.

WHAT'S COOKIN', GOOD LOOKIN'?

A week of thrifty dinners in a day

BY DAISY LUTHER

DO YOU WANT TO SAVE BOTH TIME AND MONEY? WHAT BUSY ADULT HAS ENOUGH OF EITHER THESE DAYS? A GREAT WAY TO NAB A LITTLE EXTRA OF BOTH IS BY PLANNING YOUR MEALS FOR THE WEEK AHEAD BEFORE IT BEGINS.

Back when I was a single working mama, this concept was a real game changer for our family. Yes, you'll probably spend a whole day on grocery shopping, menu planning and food prepping. But the rest of the week is practically carefree.

Here are some of the ways it saves time. There's only one big kitchen clean-up each week. The rest of the week, your dishes only consist of your plates and flatware, and whatever you used to heat your food in.

You can also wash and prep all your produce at the same time, and then just wash your colander and cutting board when you're finished.

> **MEAL PREPPING IS A GREAT WAY TO SAVE MONEY AS YOU WON'T NEED TO STOP FOR TAKEOUT ON THE WAY HOME EACH NIGHT.**

Multitasking by having several things in the oven cooking at once saves not only time, but also saves money on your utility bill.

During the week, meals are strictly heat and eat. If your food is already prepped, dinner can be on the table in 10 to 15 minutes each night.

You'll no longer draw a blank when the kids ask, "What's for dinner?" It will already be on that list of menus you posted on the fridge for everyone to see.

HOW DOES IT WORK?

Everyone has a day that works best for them to do the meal planning and prep. For most of us, it's Saturday or Sunday. Write this in your day planner or on your weekly schedule and make it nonnegotiable. The first time will probably take a while, but after that, things will go more quickly.

To save the most money, always check what's on sale at the grocery store you plan to visit. Plan your menu around the items that are least expensive for that week. But don't be married to your meal plan. If you happen to stumble across some last-day-of-sale pork chops or veggies that you can get for a song, be prepared to be flexible.

Here are the tasks involved.

- Figuring out your budget
- Checking to see what's on sale
- Planning your menu
- Grocery shopping
- Washing and cutting up vegetables
- Washing fruit
- Portioning out snacks for lunch boxes (I use those clear plastic bins in the fridge to hold snacks)
- Doing the baking
- Preparing some basic items that can be used in different ways throughout the week (roasted chicken or beef, a pot of rice, soups and salads)

SPECIAL
STRAWBERRY
1.99
SPECIAL
1.99

Shop the sales and plan your menus based on what you find.

When you return from the grocery store, it often helps to begin prepping food before it gets put

Meal Plan:
1.
2.
3.
4.
5.

A WEEK OF FOOD PREP

Here’s a sample list of foods that we made one weekend during a food prep frenzy.

- Taco meat
- Baked brown rice
- A whole chicken, roasted
- Mashed potatoes
- Veggies for steaming
- Roasted Brussels sprouts
- Fresh bread
- Blueberry corn muffins (for breakfast)
- Boiled eggs (for breakfasts and lunches)
- Broccoli slaw with bacon
- Veggie packets for lunch boxes
- A pot of chili

These items can be combined in all sorts of delicious ways.

away. Fire up the oven to preheat it and grab the slow cooker. Then, prep your soup or casserole in the slow cooker and get the oven foods ready to bake. While this is going on, you can be elbow deep in dough to make fresh bread, dinner rolls and pizza crust.

Before putting them in the refrigerator, wash, slice and portion out the fruit. I like to use gallon storage bags for veggies I intend to steam or use in a stir-fry during the week ahead. I combine them all together in advance so that when I'm cooking, I just need to fire up the wok and dump the veggies in.

BENEFITS

When you prepare your food ahead of time, dinner is on the table faster than you can say "drive-thru." Your budget will thank you because you won't require those impromptu pizza deliveries when you just don't feel like cooking. Your waistline will thank you because you won't grab high-calorie, low-nutrient convenience foods. Your health will thank you because you will be eating nutritious, wholesome meals made from scratch with ingredients that nourish you.

It's important not to look at it as another miserable chore to add to your weekly tasks. Choose your afternoon, crank up some tunes that everyone likes, don a kitschy crazy apron and start cooking. It's even more fun if you get the whole family involved.

We have a big family dinner on Sunday nights with plenty of leftovers. You can put in a little more time for this meal since you will be in the kitchen anyway.

STORING FOOD

Food is packaged for the week, with lunches being packed into divided containers, and the rest of the food is refrigerated in larger containers.

I only store the prepped food in the refrigerator through Thursday at the very latest. If you need to keep your food longer than that, you should store it in the freezer for food safety purposes.

If you're uncomfortable with this, you can still meal plan and prep. Simply combine some slow cooker meals into those gallon bags I was talking about and pop them into the freezer. In the morning before the bustle of work and school, pull the bag out and place your food in the slow cooker on low. By the time you get home, there will be a hot, delicious meal ready for you to dish out and dig into.

MENUS

Wondering what on earth you're going to make can leave you stymied before you even start. I've found that Pinterest is a gold mine for recipes and planning like this. I'm not an especially fancy cook, so I stick with simple, balanced meals the whole family will enjoy.

You can use the same foods more than once, too. If it's prepared completely differently, your family won't complain about leftovers because they won't even realize that's what they're eating. Here's an example.

On Sunday, I might make a roasted chicken with vegetables. The leftovers will get packed away into the refrigerator and can be used on Tuesday for chicken tacos or a flavorful stir-fry. The same thing would hold true for a roast of beef or pork.

You can repurpose the meat from Sunday dinner in a variety of ways:

- Add barbecue sauce and make pulled chicken to serve on buns.
- Put it into a homemade soup.
- Make open-face sandwiches with meat and leftover gravy.

These tactics also work with sides like rice. I always bake my brown rice in the oven. It might be just rice on the first day, then fried rice on Wednesday, then an addition to a casserole

GLASS CONTAINERS TEND TO HOLD UP BETTER OVER TIME THAN PLASTIC ONES!

Use small containers to portion your meals so you have easy-to-grab lunches for work.

on Thursday.

By opting for simple ingredients, you'll be able to be far more creative with leftovers.

On Thursdays, the last day that I like to keep prepared food in the refrigerator, we have a "leftover buffet," which is simply a free-for-all of whatever is left. Careful though—your kids might fight over the choicest goodies.

NOT JUST DINNERS

We eat muffins with fruit for breakfast throughout the week. Pancakes and cooked sausage can also reheat nicely in a microwave. Yogurt quickly turns into a parfait with chopped fruit and homemade granola. And, if left unpeeled, boiled eggs will last for five to seven days in the fridge and can add some protein to your mornings.

I plan the lunches ahead of time, too. I put baggies of prepped veggies and a container of washed fruit in the fridge. I bake some kind of treat to go into lunch boxes, like cookies or bars, and these are put away in individual bags once they've cooled. Lunches on the go might also contain leftovers or sandwiches.

Once you get into the swing of making your menus and prepping your food ahead of time, you'll never go back to the old way of cooking dinner.

Trà hoa hồng
Trà hoa cúc
Trà hoa nhài
Green Cardamom
Rosehip Tea
Trà tầm xuân
10.000 / 10gr
Chamomile Tea
Trà hoa cúc
20.000 / 10gr
Licorice
Cam thảo
4.500 / 10gr
Lemon
Trà Chanh
6.000 / 10gr
Hawthorn
Táo Mèo
7.000 / 10gr
Lemongrass
Trà Sả
3.000 / 10gr
Dandelions tea
Trà bồ công anh
6.000 / 10gr
CORIANDER POWDER
BỘT HẠT NGÒ
5.000/10GR
Garlic Powder
20.000 / 100gr
Onion Powder
Bột hành
2.500 / 10gr
TURMERIC POWDER
BỘT NGHỆ
Cinnamon Powder
3.000 / 10gr
MUSTARD SEEDS
HẠT MÙ TẠT
5.000/10GR
CUMIN POWDER
BỘT CUMIN
GARAM MASALA
BỘT CÀ RI GARAM MASALA
5.000/10GR
INDIAN CURRY
BỘT CÀ RI ẤN
5.000/10GR
Tacos Seasoning
5.000 / 10gr
CHILLI POWDER
BỘT ỚT
2.000/10GR
BBQ SEASONING
BỘT THỊT NƯỚNG
5.000/10GR
SWEET PAPRIKA
BỘT ỚT PAPRIKA NGỌT
5.000/10GR

Imagine all of the tasty dishes you could make using this spice cabinet.

Trà xanh
Trà đen
Trà bá tước
Licorice
Cam thảo
4.500/10gr
CUMIN SEEDS
HẠT CUMIN
4.000/100R
SMOKED PAPRIKA
ỚT PAPRIKA XÔNG KHÓI
CAYENNE

SPICE IT UP!

Craft your own seasoning mixes

BY BERNIE CARR

COOKING AT HOME IS ENJOYABLE AND IS ALSO FINANCIALLY NECESSARY DURING THESE DAYS OF HIGH INFLATION. BUT IT CAN BE BORING MAKING THE SAME THINGS OVER AND OVER.

Adding spice mixes to meats and other dishes really adds depth and flavor.

One of the ways you can make cooking easier and more fulfilling is by creating your own seasoning mixes. Sure, there are a lot of commercially prepared spice mixes, but making your own provides many benefits.

WHY MAKE YOUR OWN?

There are several reasons why you may want to explore crafting your own seasoning mixes.

✖ **Identifiable Ingredients** By creating your own blends, you can control the ingredients and avoid products with preservatives and additives that you or your family may not agree with, such as MSG, stabilizers and other items.

✖ **Freshness** Since you know exactly when you made the spice mix and what ingredients you used, you control the freshness.

✖ **Cost-Effectiveness** Commercially prepared mixes can get expensive, and making your own seasoning mix with just a few basic ingredients is cost-effective in the long run. You can buy the most common spices in bulk to save more money.

✖ **Customization** You can adjust the flavors according to your family's tastes and needs. If someone in your household is on a low-salt diet, you can use less salt. Or, if your kids don't like spicy foods, you can make the seasoning mixes milder. You can also get creative and assemble a variety of mixes as you build your culinary expertise.

BASIC TOOLS AND SPICES

Most households would already have some of the basic tools and ingredients needed to create spice mixes such as:

✖ Measuring spoons and cups
✖ Mason jars or any airtight container
✖ Labels and markers
✖ Whisk
✖ Spice grinder or small food processor (optional)

SPICE AND HERB STAPLES

These are the most common ingredients

for a large range of seasoning mixes.

Salt and Pepper
The building blocks of many seasoning blends. Use your preferred type of salt, like sea salt, pink Himalayan salt or kosher salt. And use your preferred pepper: coarsely ground, finely ground or white pepper.

Paprika Many people are surprised that paprika is made from mild peppers such as red peppers. It adds a sweet, smoky flavor to dishes. Smoked paprika is great for depth and complexity.

Garlic Powder Made from dehydrated garlic, it imparts a zing to any dish.

Onion Powder
Made from dehydrated onions, it has a delightful onion flavor without having to slice or dice.

Cumin Commonly used in Mexican and Middle Eastern spice blends, it adds an earthy, warm taste to food.

Oregano Essential for Mediterranean and Italian dishes, it is fragrant with barely noticeable bitter notes.

Chile Powder Perfect for Mexican and Tex-Mex recipes, chile powder adds heat and a deep, rich flavor.

Turmeric Commonly used in Indian, Middle Eastern and even Japanese curries, turmeric imparts a vibrant color and a warm, slightly bitter flavor.

For each of the following recipes, add the spices to a bowl and whisk to mix them thoroughly. Store in an airtight container. Be sure to label each mix with the name and the date you prepared it. For any recipe here that specifies smoked paprika, you can use regular paprika if that's all you have on hand.

ITALIAN SEASONING

A versatile blend ideal for pasta, pizza and roasted vegetables.

2 tablespoon dried basil
2 tablespoon dried oregano
1 tablespoon dried thyme
1 tablespoon dried rosemary
1 teaspoon garlic powder
1 teaspoon onion powder

CHILI SEASONING

Use 4 tablespoons to season 1 pound meat.

3 tablespoons chile powder
1 tablespoon cumin
1 tablespoon smoked paprika
1 teaspoon coriander
1 teaspoon garlic powder
1 teaspoon onion powder
1 teaspoon oregano
1 teaspoon red pepper flakes

TACO SEASONING

Use this mix to flavor ground beef, chicken or even mixed vegetables for tacos or taco bowls.

4 tablespoons chile powder

OLD BAY SEASONING IS TRADITIONAL WHEN IT COMES TO CRABS AND OTHER SEAFOODS!

Don't be afraid to experiment a little with your seasoning blends. Customize them to suit your taste.

2 tablespoons cumin
1 tablespoon smoked paprika
1 tablespoon oregano
1 tablespoon garlic powder
1 tablespoon onion powder
1 tablespoon pepper
1 tablespoon chipotle powder

OLD-BAY STYLE SEASONING

This seasoning is usually sprinkled on seafood, like fish, shrimp and crab. Try it to flavor chicken, potatoes, popcorn or hummus, too.

20 medium dried bay leaves
3½ teaspoons ground celery seed
1 tablespoon sweet paprika
½ teaspoon ground ginger
½ teaspoon ground black pepper
¼ teaspoon ground nutmeg
¼ teaspoon ground cinnamon
¼ teaspoon cayenne pepper
⅛ teaspoon ground allspice
⅛ teaspoon ground cloves
2 teaspoons salt (according to taste)

Grind the bay leaves in a food processor or spice grinder. Add the rest of the seasonings and salt to taste.

Have fun with spices and seasonings. Play around with different blends to find ones you really like.

A LITTLE SWEET, A LITTLE SAVORY, AND YOU WILL REALLY HAVE SOMETHING GREAT!

BURGER SEASONING

This recipe makes enough for a couple of burger batches. Use 1 teaspoon of seasoning per pound of hamburger meat.

1 tablespoon salt
2 teaspoons ground black pepper
2 teaspoons granulated garlic
2 teaspoons onion powder
1 teaspoon paprika
¼ teaspoon ground cayenne pepper

CAJUN SEASONING

This adds a spicy kick to seafood, chicken, potatoes and veggies.

2 tablespoons paprika
1 tablespoon onion powder
1 tablespoon garlic powder
1 teaspoon dried thyme
1 teaspoon dried oregano
1 teaspoon cayenne pepper
½ teaspoon salt
½ teaspoon ground black pepper

PUMPKIN PIE SPICE

Use pumpkin pie spice to flavor coffee drinks, muffins, oatmeal, cookies, French toast and pancakes.

3 tablespoons ground cinnamon
1 tablespoon ginger
1 tablespoon nutmeg
1 teaspoon allspice
1 teaspoon ground cloves

APPLE PIE SPICE

Use 3 tablespoons of this mix for one pie. Try it in baked apples, applesauce, yogurt, oatmeal, French toast and pancakes.

4 tablespoons ground cinnamon
½ teaspoon ground nutmeg
½ teaspoon ginger
¾ teaspoon cardamom
¾ teaspoon allspice
1 teaspoon ground cloves

BEST PRACTICES

Start with the freshest spices. Spice flavors decrease over time, so make sure you use fresh stock. Don't use the pack that's been sitting in your pantry for years and has likely expired—it will be flavorless and unappealing.

- **Take measurements seriously.** Use measuring spoons to dole out your spices. Once you are accustomed to making them, you can adjust the amounts according to your preferences.

- **When creating your spice mixes, make sure you mix the spices thoroughly**. Use a spice grinder or small food processor especially if your herbs and spices have uneven textures and sizes (such as mixing powdery spices with dried herbs).

- **Ensure your materials and utensils are clean and dry**. Any moisture will cause spices to clump and hasten deterioration. Keep any moisture away when making your seasoning mixes.

- **Consider the lifespan of whole versus ground**. Generally, whole spices such as peppercorns or cinnamon sticks have a lifespan of about three years, while ground spices will last from about six months to two years. Leafy herb spices such as dill, parsley or thyme will last one to three years. In general, if you've had a spice for over three years, you should replace it with a fresh batch.

- **Store your spice mixes in an airtight container such as a Mason jar or food storage container**. You can also use a food sealer to make small packets of spice mixes for later use. Keep your spice mixes in a cool, dark place, away from heat and light.

- **Use labels.** Even if you swear you will remember what spices you included, eventually you'll forget what's in it. I've skipped labeling and regretted it every time. Make a label and include the name of the spice mix and the date you made it.

- **Get creative.** Amazingly, you can use spice blends made for specific dishes for other applications. My aunt used to make her famous pan-fried potatoes that everyone raved about. We all thought it was something exotic, but her secret recipe was taco seasoning.

SIGNS YOUR SPICE MIX IS PAST ITS PRIME

All spices lose potency over time. Here are signs a seasoning mix is no longer fit for use.

- **Clumping**
This indicates that moisture has entered the spice mix container and caused the components to stick.

- **Dull Smell**
Spices can lose their aroma. In worst cases, the spice may actually smell off or funky. Don't second-guess yourself. If you feel the seasoning mix no longer smells right, then it's time to toss it.

- **Lack of Flavor**
Spices also lose flavor over time. Taste a tiny pinch on your tongue. If you no longer recognize the familiar and expected flavor, then you know it's pointless to keep it.

- **Change in Color**
If you notice a previously vibrant colored spice such as paprika has turned into a dull brown color, it's a sign the spice has faded in flavor, too.

- **Signs of Mold or Insects**
As with most pantry items, mold and bugs can invade a spice mix. If you notice any evidence of mold or insects, discard your seasoning mix immediately.

When you're the one putting the food into the jars, you know exactly what's inside.

YOU CAN CAN IT!

Water bath vs. pressure canning

BY ANGELINE HAWKES

CANNING FOOD DOESN'T NEED TO BE SCARY. KNOWING THE DIFFERENCES BETWEEN METHODS, THE NECESSARY SUPPLIES AND WHAT FOOD TO CAN WHICH WAY IS THE STARTING POINT IN FILLING PANTRY SHELVES.

In 1795, Napoleon Bonaparte was faced with starving troops and rotting food. He offered money to anyone who could preserve food to feed his armies. In 1809, Nicolas Appert claimed the prize money with his sealed, heated bottled food. From there, the canning industry advanced. 1858 ushered in John Mason's threaded jars. Alexander Kerr perfected a lid held in place by a screw-on ring in 1915. This led to the system used today.

BASIC CONCEPTS OF CANNING

The basics of canning are simple. There is a glass jar, a disk-shaped lid and a screw-on metal band, or ring. The two-part ring/lid lets air vent during the canning process as the contents are boiled, removing the oxygen from the jar, forming a vacuum, and the jar seals as the sealing material on the lid warms and expands. Canned foods will last up to five years. The use of high heat destroys bacteria. The jar is sealed, so no new microorganisms can enter.

LIDS AND RINGS

Lids are flat metal disks with a rubber-like seal around the underside of the rim. Lids can only be used once, because the sealing material can only expand for one processing. Rings can be reused unless damaged by dents or rust. Don't screw on the ring too tightly. Its purpose is to hold the lid on the jar until it can seal. Air must escape through the two-part system in order to form a vacuum. When the jar is removed from the canner, it's common to see bubbling and hear popping noises for hours, which is why jars shouldn't be touched for 24 hours. An unsealed lid will pop up and down when pressed in the center. If the lid didn't seal, refrigerate the contents or re-process immediately in a clean jar with a new lid.

WATER BATH CANNING

Water bath canning is used for high-acid

CANNING IS ONE OF THE MOST REWARDING CHORES AROUND THE HOMESTEAD!

This method of preserving food for long-term use has been around for well over 100 years in its current form.

foods with a pH level of 4.6 or less (the lower the pH value, the higher the food's acidity). These foods, which include fruits and pickled products, must be boiled at 212 F to destroy microorganisms. Because water boils at 212 F (at sea level), boiling water will never be hotter than 212 F. Any food requiring hotter temperatures to kill microorganisms cannot be canned with the water bath canning method. The bacterium Clostridium botulinum (which causes botulism) requires temperatures above 212 F to destroy it, but it cannot grow in high-acid foods, so this is why high-acid foods may be processed with water bath canning.

Foods to Water Bath Can

You cannot can everything in a water bath canner. Only high-acid foods with a pH level of 4.6 or lower should be water bath canned. If in doubt, consult a canning manual, but in general, these foods may be water bath canned: apples, applesauce, apricots, berries, cherries, chutneys, condiments, cranberries, fruit butters, fruit juice, fruit spreads, jams, jellies, marmalades, peaches, pears, pickled beets, pickles, plums, relishes, rhubarb, tomatoes (some hybrids may require an added acid), tomato juice, salsa, sauerkraut and vinegars.

A jar lifter is a necessary piece of equipment.

Equipment for Water Bath Canning

A special canner isn't required for water bath canning. As long as the pot is deep enough for water to cover the jars by 2 inches, and has a lid, it will work. If you don't have a canning rack to insert into the pot, use a folded towel. The glass jars shouldn't rest on the pot's bottom as they'll shatter. If you're using a glass top or electric range, the canner should have a flat bottom. Supplies needed are jars, rings, new lids, spoons, ladles, a jar lifter, a funnel, a magnetic lid lifter (nice, but not required), a dinner knife (to remove bubbles), a timer and towels. Have a kettle filled with boiling water to top off the canner if the water level gets too low.

Basic Water Bath Canning Instructions

1. Fill the canner halfway with water and heat over medium heat.
2. Prepare the food.
3. Fill the jars and clean the jar rims.
4. Put lids on the jars and screw on the rings.
5. Put filled jars on a rack within the canner. Adjust the water level to 2 inches above jars.
6. Put on the canner lid and bring water to a rolling boil.
7. When boil cannot be waved down, set the timer according to times specified for the food being canned.
8. When the time is finished, turn off the burner and remove the

WHAT IS OVEN CANNING?

Oven canning has been advised against for 75 years by the USDA. This canning process was popular in the early 1900s because most women were still canning over open flames and the kitchen got very hot. Basically, oven canning was cooking the food in the jars in the oven. There was no regulation of internal temperatures of the food, so there was no way to know if the food was properly heated enough to kill microorganisms. The temperature of the oven isn't indicative of the food's temperature. Ovens also vary in performance and may run hotter or colder depending on how heat is distributed. Jars frequently exploded. Canners became standardized around the time of World War II, allowing homemakers to more safely preserve their food.

jars from the canner.

9. Place the jars on a towel and don't touch them for 24 hours.

10. Test the lids for a proper seal by pressing down, with a finger, in the center of the lid. It should not give or flex.

11. Remove the rings and wipe and dry the jars.

PRESSURE CANNING

How is a higher temperature achieved? Adding pressure to a closed container of water will raise the temperature! The more pressure added, the higher the temperature. 240 F must be achieved to kill C. botulinum in low-acid foods. A pressure canner is a specialized pot with a locking lid, a dial and a weight that regulates steam inside the closed pot. The canner heats the food in the jars with steam, not just water. A pressure canner requires about 3 inches of water instead of a full pot like a water bath canner. The pressurized steam reaches higher temperatures than water. A dial gauge shows the pressure within the pot. The canner must be vented (steam allowed to escape through the vent pipe in the lid) for 10 minutes to allow air to escape before placing the pressure weight onto the lid. Air heats more slowly than steam, so if there's more air in the canner than required, temperatures will be lower, which means the food isn't hot enough to kill bacteria. Canners also have release valves that, if needed, will blow out and depressurize the canner so there are no "exploding" canners like yesteryear.

Foods to Pressure Can

If you're in doubt about the acidity level of the food being canned, consult a canning manual. Low-acid foods must be pressure canned. Examples of these foods are asparagus, beans (all variations), beets, carrots, corn, gravies, hominy, meat (all), meat sauces, mushrooms, okra, peas, potatoes, poultry, spinach, squash (all varieties), seafood, soups and stews.

Pressure Canning Equipment

You'll need the supplies listed for water bath canning, as well as a pressure canner. Pressure canners have a locking lid with gauges. A dial-gauge regulator has a "hand," like on a clock, that aligns with the pressure number. Turning the burner heat up or down changes the temperature inside the canner, which causes the hand to rise or fall indicating the inside pressure level. This dial may be permanently affixed to the lid. There is a metal weight with three holes, adjusted by turning it to the 5-, 10- or 15-pound hole as indicated on the weight. The weight is inserted over the vent pipe on the lid and regulates how much air/steam is allowed out of the canner. The weight makes a jiggling sound as it's rocked by steam. The dial gauge only shows the pressure; it doesn't control the pressure. The weight controls the pressure but doesn't measure it.

Basic Pressure Canning Instructions

1. Fill the canner with 3 inches of water.

2. Prepare the food.

3. Fill the jars and clean the jar rims.

4. Put lids on the jars and screw on the rings.

5. Put the rack in the canner and put the jars on the rack. Lock the lid into position. (The weight is not used yet.)

6. Turn heat to high and let steam hiss from the vent for 10 minutes.

7. Place the weight onto the vent pipe and wait for the gauge to register the required pressure (according to the recipe).

8. When the correct pressure is reached, start the timer.

9. The weight should jiggle three to four times per minute. Turn the heat up or down, depending on whether more or fewer jiggles are needed.

10. When the processing time is over, turn off the burner and let the gauge return to zero (this can take a while). Remove the weight.

11. Unlock the lid and remove the jars.

12. Place the jars in a draft-free location and don't touch them for 24 hours.

13. Test the lids for proper seal by pressing down, with a finger, in the center of the lid. It should not give or flex.

HOME-PRESERVED FOOD IS HEALTHIER, TASTIER AND CHEAPER THAN STORE-BOUGHT!

There are numerous recipes you can try.

14. Remove the rings and wipe and dry the jars.

MOUTHS? HEADSPACE? WHAT DOES THIS MEAN?

Terms used in canning may seem overwhelming until you understand them. Only tempered glass jars meant for canning should be used to can foods. Don't use recycled jars from store-bought foods, as these were intended for one commercial processing. The mouth is the jar's opening and is either a regular (also called standard) or a wide mouth. All jars have regular or wide mouths regardless of the jar's size, which allows for uniform lid usage. Wide mouth jars have larger openings. They're easier to fill while canning. Both jars function the same way. Headspace refers to the amount of space between the food in the jar and the lid. This empty space is required for a vacuum seal. Too much room between the food and the lid will keep the jar from sealing. Too little space between the food and the lid enables food to leak onto the rim, which prevents the rubbery sealing material from creating an airtight seal.

RAW PACK VS. HOT PACK

Raw packing is placing room-temperature food into the jar and covering it with boiling liquid. Hot packing refers to placing boiling food in the jar and covering it with boiling liquid. The reasoning behind hot packing is that food shrinks when cooked, so you may be able to get more into the jar. Raw packing eliminates the step of first boiling the food, but the end result might be less food in the jar. It's mostly a personal preference.

Angeline Hawkes writes for *Backwoods Survival Guide*, *Backwoods Home Magazine*, *Prepper Survival Guide*, *Self Reliance Magazine* and others. Visit her YouTube channel, Canterbury Trails Farm: https://www.youtube.com/c/CanterburyTrailsFarm

FOOD MAGIC

Making cheap eats good

BY ANGELINE HAWKES

ALWAYS SAVE LEFTOVERS, EITHER FOR LUNCHES OR TO REPURPOSE FOR ANOTHER DINNER!

Great meals don't have to cost a pretty penny.

LIKE TWO PEAS IN A POD. AS AMERICAN AS APPLE PIE. HAVE YOU EVER THOUGHT ABOUT HOW MANY OF OUR PHRASES CENTER AROUND FOOD? THE OLD ADAGE "YOU ARE WHAT YOU EAT" IS YET ANOTHER ONE.

If you're eating on a tight budget, you might be shaking your head as you ruminate on that saying. But eating on the cheap doesn't have to mean eating tasteless or less nutritious meals. With a little preparation and creativity, you can make cheap food taste remarkable!

PINCH THOSE PENNIES

Knowing how to cook from scratch saves money. It's much cheaper to stock a pantry with staples and cook from those ingredients than it is to purchase prepackaged foods. Watch for sales and buy in bulk. Divide large amounts into smaller portions and can, dehydrate or freeze the excess. With proper planning, one whole chicken can last one to two weeks for a single person—and even the carcass can be used to make broth. It's also possible to dress up cheaper foods to add nutrition and flavor. It's easy to enhance foods like ramen noodles, macaroni and cheese, bread, hamburger, canned soups and prepared pasta or rice pouches.

ADDING MEAT OR MEAT ALTERNATIVES

Whenever possible, add protein. Cheaper foods tend to be high in carbohydrates and skimpy on proteins. The body needs proteins to build blood, bone, cartilage, muscle and skin, and to repair injuries or age-related bodily damage. Proteins are derived from animal or plant-based sources. Beans, cheese, eggs, fish, lentils, nuts, seeds, meat and yogurt provide the body with protein (as well as iron, magnesium, zinc, and vitamins B and E). The average adult needs two servings of protein a day (one serving isn't much—it can fit in your hand). Adding legumes or meat to food enhances its flavor and nutritional value. Black beans are inexpensive and may be added to canned soups and rice/pasta meals. Mix ½ cup of pureed canned black beans with ½ cup of salsa and eat as a dip, or on a tortilla/taco shell, or mixed with a cup of cooked rice for an easy, inexpensive meal. Buy sodium-free beans for a healthier option. Legumes are high in fiber, which helps you feel fuller. Cook hamburger, divide it into 1 cup portions and freeze in individual zip-close bags. Add one bag to baked potatoes, mashed beans or other recipes.

DON'T UNDERESTIMATE THE EGG

Eggs can be served many ways: sliced in sandwiches, scrambled with ham, deviled, and hard-boiled; whisked through a sieve into boiling chicken broth to make egg drop soup; or cut a hole in the center of a piece of bread, place it in a greased skillet, crack an egg in the center and fry to make eggs in a basket. For inexpensive breakfast meats to accompany the eggs, look for packages of bacon ends in the grocery store. These are irregular slices or chunks of bacon that are a significantly less expensive meat option. Canned hams can be sliced or cut into chunks and added to scrambled eggs, macaroni and cheese and other dishes. Add sliced hard-boiled eggs to salads, make egg salad for sandwiches or eat them as is.

THE POWER OF CHEESE

Cheese is higher on the price scale, but if bought in bulk, shredded and frozen, you'll have a fast additive to perk up inexpensive foods, adding flavor and protein. Dehydrated cheese powder is useful for adding a dash of cheese flavor to drab meals. Cheese is a source of calcium and protein and is almost magical when trying to get a stubborn child to eat their food. Add shredded cheese to any Mexican- or Italian-inspired meals, stews, soups, or pasta or rice meals, or dress up that supercheap box of macaroni and cheese!

VEGGIES FOR A LITTLE ZING

Canned or fresh vegetables can be added to prepackaged meals or canned soups for more nutrition and flavor. Fresh veggies can be

FEW THINGS SMELL AND TASTE BETTER THAN A LOAF OF BREAD FRESH FROM THE OVEN!

Once you get the hang of it, making bread at home isn't difficult at all.

Chili can be made fairly inexpensively and it's quite filling. Beans are optional.

cut up and portioned out into individual baggies to be used in cooking throughout the week. (Use them fresh, or freeze them for later.) Buying fresh in bulk often yields the best savings. Carrots and potatoes are abundant and inexpensive. Fresh veggies take longer to cook, but canned vegetables can be instantly added to soups and stews. Add one (15-ounce) can each of corn, diced tomatoes and black beans, and one cut-up onion (or ¼ cup dehydrated minced onion) to a pound of hamburger mixed with taco seasonings for an inexpensive and nutritious one-skillet taco meal (this can be served over corn chips for Frito pie, or as a taco filling). Broccoli, frozen or fresh, is a tasty addition to box mac and cheese, or prepackaged pasta or rice meals that have a cheese flavor. Chopped onions or tomatoes are a good addition to any Italian-, Mediterranean- or Mexican-style meal. An easy meal for one person is 1 cup of cooked, shredded chicken mixed with a 14-to-15-ounce can of cream of chicken soup (or cheddar or cream of mushroom soup) and ½ cup of milk. Add 1 cup of frozen broccoli or canned carrots (or any vegetable you'd like). Cook and serve over mashed potatoes, baked potatoes, rice or toast (whole, or cut the toast into small squares with kitchen shears).

SPICE IT UP

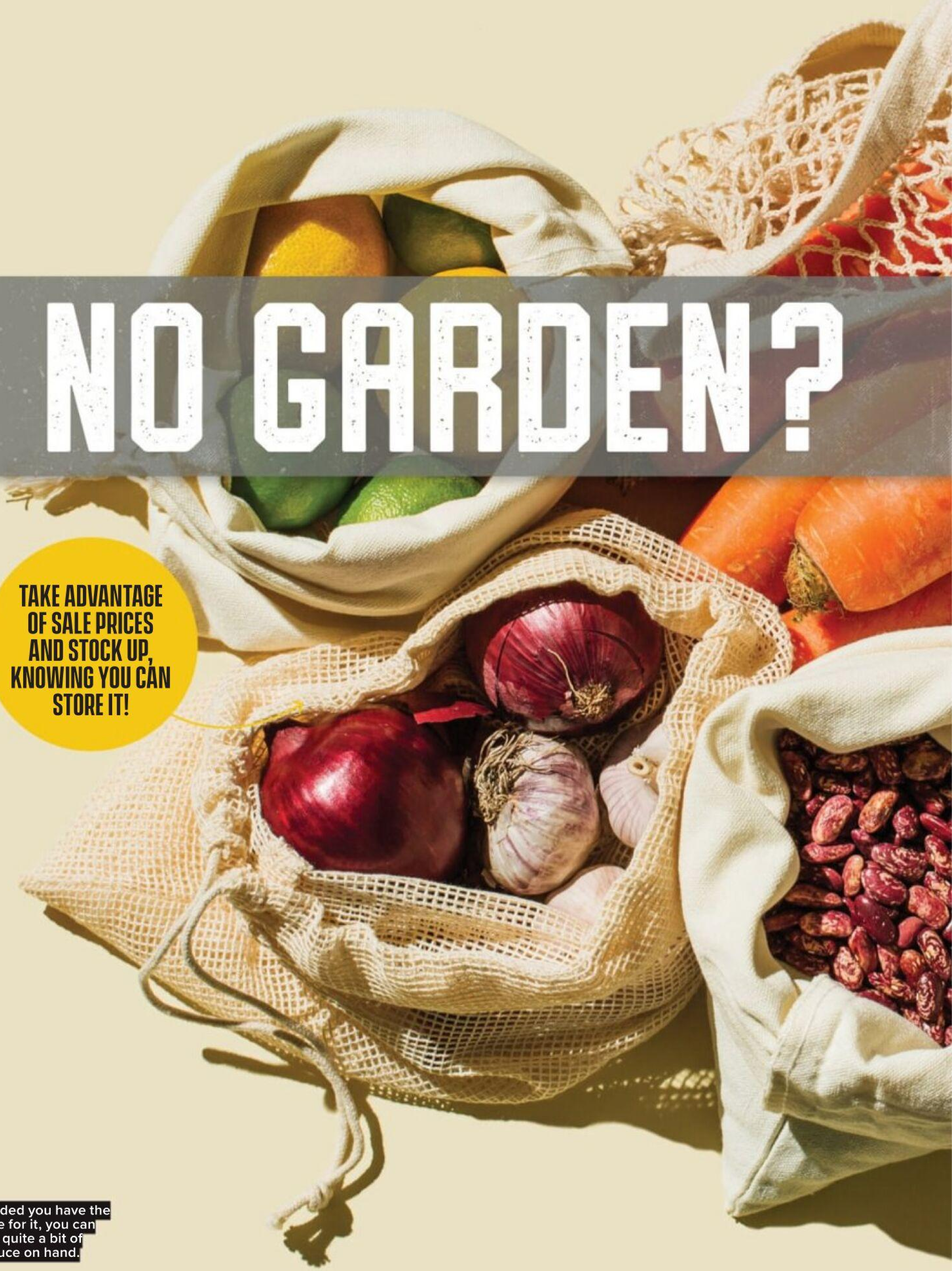
Spices add flavor to boxed foods. Staples to stock are garlic powder, red pepper flakes, onion powder, chile powder, paprika, salt, pepper, parsley, minced onion and oregano. Don't forget about flavored oils. Make a spicy oil by adding ¼ cup of red pepper flakes to 1 cup of vegetable or olive oil. A can of chunk chicken can be turned into a "wow" meal with a little spice. Mix a 12-ounce can of chunk chicken (drained—cats and dogs love the drained chicken water!) with 2 teaspoons red pepper flakes, 2 teaspoons minced onions, ½ teaspoon garlic powder, ½ teaspoon chile powder, and salt and pepper. Stir together in a small pan until warmed. Add the cooked mixture to tortillas/taco shells or serve over tortilla chips, or mix it with a cup of cooked rice. Substitute a pound of hamburger for the chicken, if preferred.

USE IT IN A WHOLE NEW WAY

Many prepared food items, like boxed cake mix, can be used in alternative ways. You just need to be creative.

- **Use cake mix to make pancakes** To a 15-ounce cake mix, add the oil and eggs listed, but use milk instead of water. Add milk ¼ cup at a time until the mix has the consistency of pancake batter.
- **Use cake mix to make cookies** Add 2 eggs and ½ cup oil, but cut out any liquid listed in the instructions. Mix, chill for two hours, form into balls/slices, and cook at 350 F for about 8 to 10 minutes.
- **Use cake mix to make quick bread** Cake mixes such as apple, banana, carrot, pumpkin, spiced cake or yellow cake work best.

NO GARDEN?



TAKE ADVANTAGE OF SALE PRICES AND STOCK UP, KNOWING YOU CAN STORE IT!

Provided you have the space for it, you can keep quite a bit of produce on hand.

NO PROBLEM!

Preserving grocery store produce

BY ANGELINE HAWKES

MANY HOMEOWNERS ASSOCIATIONS BAN GARDENING. MANY URBAN ENVIRONMENTS FEATURE A BALCONY THAT IS THE ONLY BACKYARD ONE MIGHT HAVE. SUBURBAN PLANNING HAS REDUCED THE SQUARE FOOTAGE OF YARDS, MAKING GARDENING DIFFICULT.

But these things don't prohibit the suburban homesteader from preserving produce. Farmers markets and grocery stores are stocked with an abundance of fruits and vegetables that can be preserved just like home-grown. According to the USDA, food prices rose faster in 2022 than in any year since 1979. Reasons behind rising food prices include disruptions to the supply chain, avian influenza, the COVID pandemic, changing consumption patterns, higher energy prices, increases in transportation costs and the Ukrainian conflict. Preserve produce to protect against rising prices and potential shortages.

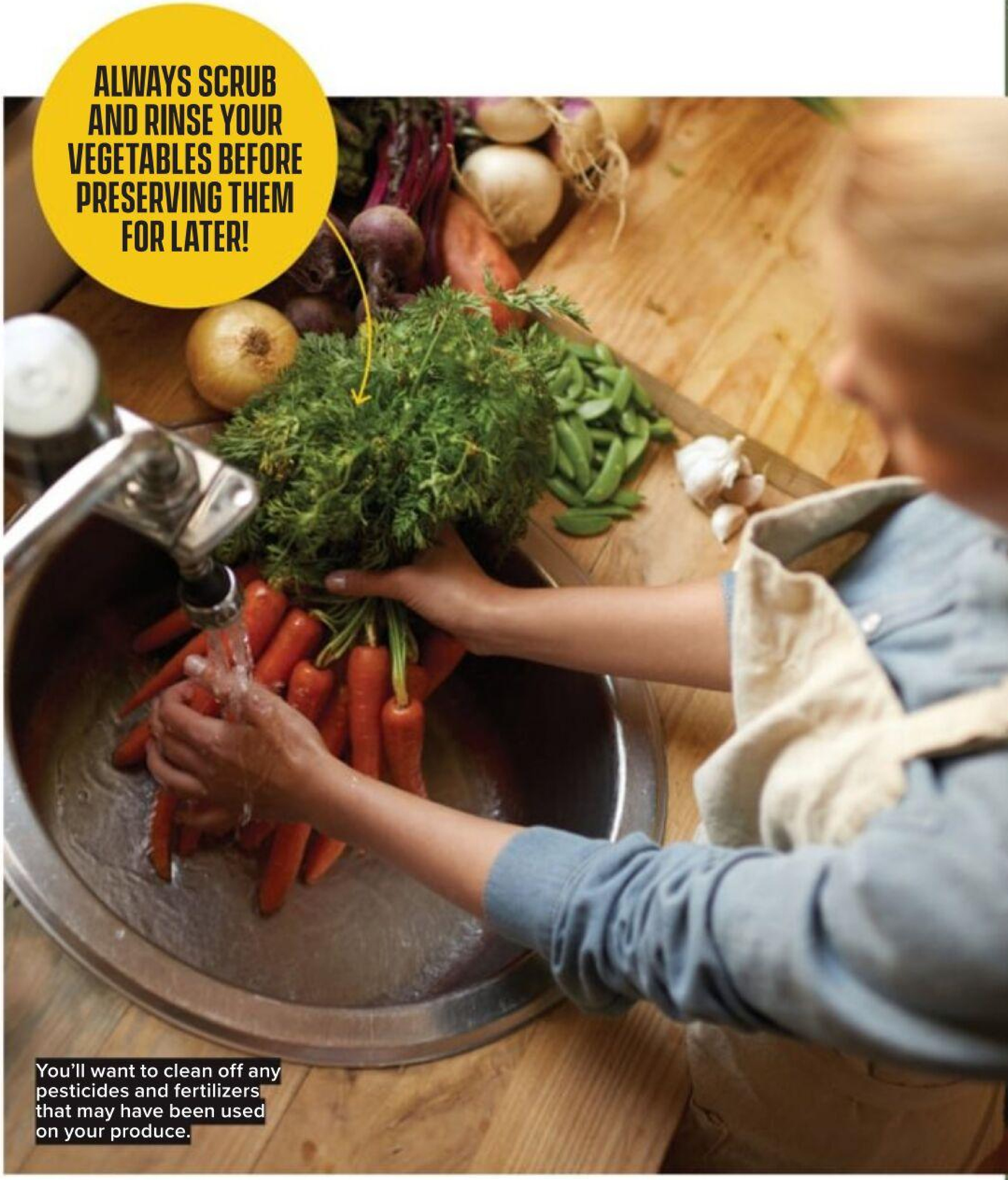
BUYING IN BULK TO PRESERVE

Keep an eye on produce prices. Know the average price of, for example, a pound of carrots. Determine this by using local store advertisements and online research. When prices drop, buy in bulk. Fruits and vegetables are sold at lower prices when they first come into season because there's an abundance. To see real savings, know the average price of a 15-to-16-ounce can of whatever it is you wish to preserve. Then calculate the price per jar if you can the same produce yourself. For example, four medium carrots, sliced, equal about 2 cups (1 pint jar). In my area of north Texas, the average 14.5-to-15-ounce can of sliced carrots sells for 99 cents to $1.63. About five medium carrots equal 1 pound. I can roughly figure 1 pound of carrots per pint jar. My cost per pound of fresh carrots needs to be below 99 cents to see a savings over a store can.

CLEANING FRUITS & VEGETABLES

With home-grown produce, you know where the food comes from and what was put on the food. You also know who handled

Examine fruits and vegetables carefully and avoid any that are bruised or otherwise damaged.


ALWAYS SCRUB AND RINSE YOUR VEGETABLES BEFORE PRESERVING THEM FOR LATER!

You'll want to clean off any pesticides and fertilizers that may have been used on your produce.

the food and in what conditions. With store-bought produce, pesticides are a big concern. Pesticides are chemicals that slow or kill bacteria, fungi, insects and weed growth, and do other things like keeping away animals (such as deer or rodents). Different parts of the world have varying standards for safety when it comes to pesticides. The term "pesticide-free" is a free-for-all; it's unregulated and doesn't always mean organic. The USDA Organic label ensures the product was treated with the minimum level of pesticides accepted by the USDA to qualify as organic. Likewise, fertilizers are concerning. In some countries, human waste is used as fertilizer on crops. Bacteria from handling and transportation is also a concern. Lettuce, tomatoes and spinach are more prone to illness-causing bacteria, such as E. coli and salmonella. The USDA and the FDA recommend scrubbing fruits and vegetables with a vegetable brush under running water. Many brands of produce cleansers are available in the store. Scrubbing fruits and vegetables with a brush for 20 seconds under running water eliminates about 80% of pesticide residue.

If running water and a vegetable scrubber isn't enough to alleviate concerns, using a natural cleaner is an option. Don't use soap or dish detergents, because these aren't always nontoxic. Also, consider the prep used with a particular vegetable or fruit. If you're peeling before preserving, a lot of concerns are removed.

To eliminate 90% of bacteria, pesticide residue and soil contaminants, the USDA and FDA recommend soaking produce in a baking soda/water solution. For a small number of fruits or vegetables, mix 1 teaspoon baking soda in 2 cups water in a bowl, and let the food soak for 15 minutes. Batches of fruits or veggies can be soaked in the kitchen sink. To a clean sink, add 4 tablespoons baking soda and fill halfway with cold water. Remove stems and leaves before soaking. For leafy vegetables, loosen the leaves so water flows freely between them. Soak the fruits or vegetables for 15 minutes. Pat dry.

Another option is grapeseed extract, which kills 800 bacterial and viral species. Mix 1 teaspoon baking soda, 25 drops grapeseed extract, 1 cup water and 1 cup white vinegar in a spray bottle. After scrubbing under running water, spray the produce and let the spray remain for 10 minutes. Rinse the produce under cold water, then dry.

The disinfecting properties of vinegar work to remove 80% to 90% of pesticide residue and kills 98% of surface bacteria. Apple cider vinegar or white vinegar are effective. This cleaner may be used as a spray or a soak. For a spray, mix equal parts vinegar and water in a spray bottle. Spray the produce thoroughly, and after 10 minutes, rinse beneath cold water and pat dry. For a soak, mix 1 part vinegar to 3 parts water in a large basin. Soak produce for 10 minutes. Rinse beneath cold water and pat dry.

CANNING

In 2001, the Survey Research Center at the University of George conducted a home canning survey which yielded interesting statistics. It found that 27% of those surveyed had canned food in the previous year. Half of the respondents were between 35 and 64 years old, with 82% being female. About 56% were from urban areas. Nearly 47% of those surveyed canned fruits, and 71% canned vegetables. Only 5.2% of respondents reported spoilage of their canned foods. Grocery store produce can be canned just like home-grown fruits and vegetables. When shopping, look for unblemished, firm produce. If the food does have bruises, dents, or punctures, cut away those parts. The extreme heat involved in canning kills most microorganisms. Only buy what you might reasonably can in the time you have available. Don't buy a truck load of tomatoes if you only have Saturday afternoon to can them all. Most fresh produce may only be stored for five to seven days. Use a pressure canner for low-acid vegetables. Water bath canning is only for fruits and tomatoes. See our article You *Can* Can It! starting on page 98 for more information on canning procedures.

DEHYDRATING

Grocery store produce can be dehydrated in the same way as homegrown produce. Wash the fruits or vegetables and pat dry before dehydrating. Dehydrating food preserves the food by removing water, and this reduction in water causes bacteria to die. Without water, bacteria and enzymes can't decompose food. Treat light-colored fruits, like apples, with lemon juice or vitamin C (ascorbic acid) to reduce the likelihood of browning. This isn't necessary, but is more aesthetically pleasing. Use 1 tablespoon lemon juice per 1 cup of water or crush 3000 milligrams of vitamin C tablets in 2 cups of water. Soak sliced or cubed fruits for about five minutes before patting dry, then place them on dehydrator trays. Fruits and vegetables should be dried until brittle and crisp. Store dehydrated fruit in airtight containers, in a cool, dark, dry place for about a year. Dehydrated vegetables, properly stored, last about six months before losing nutritional value.

FREEZING

Grocery store vegetables should be washed and blanched before freezing. Loss of quality in frozen foods results from enzymes that hasten ripening and decomposition, microorganisms (bacteria, mold) that spoil food, ice crystals, and moisture evaporation. Blanching reduces enzymes and microorganisms.

Fruits can be made into jellies or jams for storage.

Many vegetables can be dehydrated for storage, but they should be blanched first.

HOW TO BLANCH VEGETABLES

Vegetables need to be blanched before dehydrating or freezing. Blanching stops the decomposition enzymes responsible for color and flavor loss. Place a pound of sliced or cubed vegetables in a gallon of boiling water for two to five minutes, drain and immediately place the veggies into a basin of ice water to stop the cooking action. When the vegetables are cool enough to touch, transfer them to dehydrator trays or continue with the freezing process.

Freezing alone won't kill most microorganisms, but it halts growth until thawed again. Once food has been blanched, place a single layer of sliced or cubed vegetables onto baking sheets and freeze. Remove the frozen veggies and place them into plastic bags or other freezer containers. Grocery store fruit should be washed, sliced or cubed, and lighter-colored fruits soaked in a lemon juice or vitamin C solution. Smaller fruit, such as berries, can be frozen whole, quartered or halved. Any fruit with a large seed or core, such as cherries, peaches or apples, should be cored and the seed removed prior to freezing. Freeze in the same way vegetables are frozen and package them the same way. Most fruits and vegetables can be frozen for up to six months before freezer burn sets in and the taste and nutritional value of the food is diminished. Freezer burn is noticeable by an abundance of ice crystals on the food. It's caused by moisture evaporation from faulty storage or time. Freezer-burned food is safe to eat, but the taste of the food is often bad.

When blanching vegetables, after boiling they should be put into an ice bath to stop them from cooking further.

Backwoods Survival Guide

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